

Apparel Design and Development

Rita Christoffersen, Program Director, 320 Home Economics Building, 715/232-1194

Introduction

The Apparel Design and Development program prepares students for careers in the apparel and fashion-related industries as team members who understand the whole of the apparel pipeline. Graduates of Stout's program hold careers in apparel product design and development, apparel product management, and apparel quality assurance.

Apparel design courses integrate consumer needs and desires with aesthetics and technology as they address societal and ethical issues. The technical courses are supported by state-of-the art laboratories. Yearly, the program has credit-producing learning experiences traveling to New York City and other apparel and fashion centers. A semester of study at the American College in London is available to program students.

The Apparel Design and Development program is one of only 13 programs of its kind in North America that has affiliation status with the American Apparel and Footwear Association.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	61-62 credits
Concentrations	15 credits
Electives	5-6 credits

Students are required to take 61 or 62 business and professional core credits and select one or more of the three 15-credit concentrations:

1. Apparel Design
2. Apparel Product Management
3. Apparel Development

Course grades of "C" or higher are required in the Professional Core and the concentrations.

Program Requirements

General Education

42 credits required

A. Communication Skills

8 credits

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning

6 credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

ECON-210	Principles of Economics I (recommended)	3
<i>Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.</i>		

F. Natural Sciences (with Lab)

4 credits

G. Technology

2 credits

H. General Education Electives

2 credits

Courses must be from categories A, B, D, E and F.

Major Studies

61-62 credits required

Professional Core

44 credits required

APRL-101	Introduction to Apparel Design and Development	3
APRL-140	Textiles	3
APRL-166	Apparel Construction	3
APRL-180	Pattern Development	3
APRL-202	Quality of Sewn Products	3
APRL-250	Textile Evaluation	3
APRL-274	Fashion Industry	3
APRL-355	Special Topics in Apparel Design and Development (four credits required)	1-3
APRL 370	Portfolio Development	3
APRL-375	Technical Design Development	3
APRL-381	Functional Clothing Design	3
APRL-382	Advance Pattern Development	3
APRL-394	Knit Design and Technology	3
APRL-398	Field Experience or	
APRL-X49	Cooperative Education	1
APRL-474	Apparel Production	3

Business Core*17-18 credits required*

BUINB-260	Introduction to International Business	<i>or</i>	
BUINB-367	International Management	.....	3
BUINB-485	International Marketing	<i>or</i>	
BUMKG-330	Principles of Marketing	.....	3
BUMKG-479	Marketing Research	<i>or</i>	
PSYC-370	Interpersonal Effectiveness	.....	2-3
BURTL-227	Basic Merchandising	.....	3
BURTL-319	International Economic Trends in Textiles and Clothing	.....	3
INMGT-400	Organizational Leadership	.....	3

Concentrations*15 credits required***Apparel Design**

APRL-185	Apparel Line Development	.....	3
APRL-211	History of Fashion	.....	3
APRL-286	CAD for Apparel	.....	3
APRL-485	Apparel Design Studio	.....	3
BURTL-417	Social-Psychological Aspects of Clothing	.....	3

Apparel Development

APRL-185	Line Development	.....	3
APRL-286	CAD for Apparel	.....	3
BUACT-206	Introduction to Financial Accounting	.....	3
BUMIS-333	Management Information Systems	<i>or</i>	
APRL-485	Apparel Design Studio	.....	3
ENGL-415	Technical Writing	.....	3

Apparel Product Management

BUACT-206	Introduction to Financial Accounting	.....	3
BUMIS-333	MIS Decision Support Systems	.....	3
ENGL-415	Technical Writing	.....	3
INMGT-120	Quality Concepts	.....	3

Select one of the following courses:

BUMGT-304	Principles of Management	.....	3
BUMKG-438	Industrial Distribution	.....	3
ECON-480	International Economics	.....	3
POLS-340	International Relations	.....	3

Electives*5-6 credits required*

Applied Mathematics and Computer Science

Introduction

The role of mathematics in our highly scientific-technological society is basic and essential. Mathematical thought and modeling are valued tools in our sophisticated industrial community. The application of mathematics to industry and business to meet society's need is increasing. This growth and demand continues to create a need for graduates with training in Applied Mathematics and Computer Science.

The Applied Mathematics and Computer Science program prepares graduates for careers in a variety of fields by providing a foundation in mathematics, computer science, and statistics, complemented with additional courses specified by the selected concentration. Students may choose a concentration in Actuarial Science, Bioinformatics, Business Management or Software Development, or students may tailor their coursework to provide knowledge that will prepare them for a career path of their choice.

Students will enhance their studies and gain significant hands on experience through a capstone course or cooperative education experience. On campus, there are also opportunities in undergraduate research, tutoring, and other technical openings to enrich the educational experience.

In addition to fulfilling the university's basic admissions requirements, Applied Mathematics and Computer Science applicants must also graduate in the top 50 percent of their class, or for high schools that do not rank, have a cumulative grade point average of at least 3.00 on a 4.0 scale and have a minimum ACT composite score of 22 (SAT Math 510).

General Requirements

Bachelor of Science Degree

Total for graduation	120 credits
General Education	41-43 credits
Major Studies	26-30 credits
Concentration	50-53 credits

In fulfilling the necessary competencies for a degree, a student may complete the requirements for a minor in Business Administration, Economics, or Technical Writing. It is the student's responsibility to obtain approval for the minor from the department offering it.

Program Requirements

General Education

41-43 credits required

A. Communication Skills 8 credits

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning 7-8 credits

CS-144	Computer Science I	3
MATH-153	Calculus I or	
MATH-156	Calculus and Analytic Geometry I	4-5

C. Health and Physical Education 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

Students enrolled in either the Business Management or the Actuarial Science concentration must take: ECON-210 Principles of Economics I.

F. Natural Sciences (with Lab) 4-5 credits

Students enrolled in the Bioinformatics concentration must take: CHEM-135 College Chemistry I.

G. Technology 2 credits

Major Studies

26-30 credits required

Mathematics

MATH-154	Calculus II or	
MATH-157	Calculus and Analytic Geometry II	4-5
MATH-158	Calculus III	3
MATH-275	Linear Algebra	3

Computer Science

CS-145	Computer Science II	3
CS-244	Data Structures	4

Statistics

Statistics courses are selected with advisement.

STAT-330	Probability and Statistics for Engineering and Science or	
STAT-331	Probability and Mathematical Statistics I	3
STAT-332	Probability and Mathematical Statistics II	3

Capstone

MSCS-449	Cooperative Educational Experience and/or specific concentration capstone course	3-6
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Professional Investigation/Exposure

Students must attend at least one professional event per semester for two years. See advisor.

Major without Concentration

47-53 credits required

MATH-370	Modern Algebra I	3
MATH-450	Real Analysis I	3

Selectives**41-47credits**

The proposed program plan must be approved by the Program Director at least four semesters prior to graduation. The plan must indicate career path and courses that support that career. The plan may include a minor or a second major.

Concentrations

50-51credits required**Actuarial Science Concentration****51 credits****Concentration Requirements**

ECON-215	Principals of Economics II	3
ENGL-320	Business Writing or	
ENGL-415	Technical Writing	3
STAT-440	Linear Regression/Time Series Analysis	3
MATH-255	Differential Equations	3
MATH-370	Modern Algebra I	3
MATH-450	Real Analysis I	3
MSCS-280	Graph Theory	3
MSCS-446	Numerical Analysis I	3

Concentration Selectives, 27 credits

Courses are chosen from a list of Actuarial Science selectives provided by the program director.

Bioinformatics Concentration**50 credits****Concentration Requirements**

BIO-136	College Molecular Cell Biology I	5
BIO-235	Molecular Cell Biology II	4
BIO-370	Biotechnology	3
CHEM-136	College Chemistry II	5
CHEM-201	Organic Chemistry I	4
CHEM-311	Biochemistry	4
CS-443	Database Systems	3
MATH-492	Math and Computational Foundations of Bioinformatics	3

Concentration Selectives, 19 credits

Courses are chosen from a list of Bioinformatics selectives provided by the program director.

Business Management Concentration**51 credits****Concentration Requirements**

BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Introduction to Corporate and Managerial Accounting	3
BUACT-312	Cost Accounting or	
BUACT-335	Accounting for Management Decisions	3
BUMGT-304	Principles of Management	3
BUMKG-330	Principles of Marketing	3
ECON-215	Principles of Economics II	3
ENGL-320	Business Writing or	
ENGL-415	Technical Writing	3
MATH-370	Modern Algebra	3
MATH-450	Real Analysis I	3
MSCS-280	Graph Theory	3
MSCS-446	Numerical Analysis I	3

Concentration Selectives, 18 credits

Courses are chosen from a list of Business Management selectives provided by the program director.

Software Development Concentration**51 credits****Concentration Requirements**

CS-343	Mathematical Foundations of Computer Graphics	3
CS-441	Computer Organization	3
CS-442	Systems Programming	3
CS-443	Database Systems Manipulation and Design	3
CS-448	Software Engineering	3
ENGL-415	Technical Writing	3
MATH-370	Modern Algebra I	3
MATH-450	Real Analysis I	3
CS-245	Introduction to Computer Organization	3
MSCS-280	Graph Theory	3
MSCS-446	Numerical Analysis I	3

Concentration Selectives, 18 credits

Courses are chosen from a list of Software Development selectives provided by the program director.

Applied Science

Introduction

The Applied Science program offers a unique educational experience for students to learn science by doing science. The program emphasizes flexibility through a broad scientific base along with experience through a chosen career emphasis. In a world of new products and processes, the program also fosters the creativity needed to contribute to new scientific advances. Our program prepares graduates for a variety of expanding careers in biotechnology, nanotechnology, health sciences, materials science and science education. The strong academic content of the Applied Science program will also prepare graduates for entry into a variety of professional (such as medical, pharmacy, veterinary or chiropractic) and graduate schools.

The curriculum is based on a core of chemistry, physics, biology and mathematics. Students will explore cutting edge topics in nanotechnology and biotechnology in addition to the many facets of applied science, including technical writing, data analysis, interpersonal communication and experiment design. Principles in management, marketing, manufacturing, and finance are introduced.

In addition to working with instructors from a broad range of fields, students gain significant hands-on experience through a field or cooperative education experience. This versatility offers the qualities that employers are looking for in today's college graduates — interpersonal and problem-solving skills, high energy level and good judgment.

Our graduates are able to enter a myriad of occupations and career paths after graduation. Some of our graduates have chosen to enter the work force directly by becoming scientific sales representatives or laboratory technicians. Many of our graduates have continued with their passion in science and have chosen graduate schools in fields ranging from marine microbiology to bio-nano chemistry, while other graduates have entered dental or pharmacy schools.

In addition to fulfilling the university's basic admission requirements, Applied Science applicants must also have an ACT math score of at least 22 (*SAT math 510*) and either rank in the upper 40 percent of your high school class (or *GPA of 3.0*), or have a composite ACT score of 22. Nontraditional or transfer student admission will be based on current admission standards with guidance from the program director.

General Requirements

Bachelor of Science Degree

Total for graduation	120-126 credits
General Education	42-47 credits
Major Studies	37-41 credits
Concentration	36-44 credits

Program Requirements

General Education

42-47 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition <i>or</i>	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **7-10 credits**

MATH-153	Calculus <i>or</i>	
MATH-156	Calculus and Analytical Geometry I	4-5
STAT-320	Statistical Methods <i>or</i>	
MATH-154	Calculus II <i>or</i>	
MATH-157	Calculus and Analytical Geometry II	3-5

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

PHIL-235	General Ethics	3
<i>Remaining courses must be from two other areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, and performing arts.</i>		

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **5 credits**

CHEM-135	College Chemistry I	5
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G. Technology **2 credits**

H. General Education Electives **0-2 credits**

Major Studies

37-41 credits required

Specific course selection is determined by concentration requirements. See your program director.

ENGL-415	Technical Writing	3
BIO-136	College Molecular Cell Biology I	5
STAT-320	Statistical Methods (if not taken as General Education)	3
APSC-311	Issues for Scientific Professionals	3
APSC-201	Applied Science Profession I	1
APSC-401	Applied Science Profession II	1

Choose the appropriate course sequence, depending on concentration:

BIO-101	Introductory Biology and	
BIO-150	Environmental Science	6
BIO-135	Organismal Biology and	
CHEM-136	College Chemistry II	10

Choose the appropriate Chemistry course sequence, depending on concentration:

CHEM-335	Instrumental Methods and Analysis	3
CHEM-204	Organic Chemistry II Lecture and	
CHEM-206	Organic Chemistry II Lab	4
CHEM-331	Quantitative Analysis or	
CHEM-412	Advanced Biochemistry	3

Choose the appropriate Physics courses, depending on concentration:

PHYS-281	University Physics I and	
PHYS-282	University Physics II	10
PHYS-241	College Physics I and	
PHYS-242	College Physics II	10

Choose a minor that is not Chemistry, Biology, or Physics and complete a 1-credit independent study, cooperative education experience, or field experience for the degree without a concentration; or choose one of the following concentrations:

Concentrations

36-44 Credits

Biotechnology

44 credits

BIO-235	Molecular Cell Biology II	4
BIO-370	Biotechnology	3
BIO-400	Special Topics: Biotechnology	1-2
BIO-470	Advanced Biotechnology	5
BIO-489	Advanced Biology Experience	1
CHEM-201	Organic Chemistry I	4
CHEM-311	Biochemistry	4
STAT-320	Statistical Methods or	
MATH-154	Calculus II or higher (whichever was not taken as General Education) ..	3-4
APSC-499	Independent Study or	
APSC-X49	Cooperative Education Experience or	
APSC-X98	Field Experience	1

Electives (12 credits)

Take any UW-Stout biology or chemistry course, 200-level or higher, or any UW-River Falls biotechnology course.

Materials Science

40-42

MATH-250	Differential Equations or	
MATH-255	Differential Equations with Linear Algebra	3
CHEM-201	Organic Chemistry I	4
CHEM-301	Physical Chemistry	3
CHEM-303	Physical Chemistry Laboratory	1
CHEM-325	Chemistry of Polymers	3
CHEM-341	Materials Science I	4
CHEM-440	Advanced Materials Laboratory	3
CHEM-470	Materials Science II	3
ELEC-281	Circuits, Devices and Logic or	
ELEC-272	Solid State Electronics or	
ELEC-290	Circuits and Devices	3_4
MFGE-352	Polymer Processes	3
MFGT-253	Joining and Casting Processes	3
PHYS-321	Statics and Strength of Materials or	
PHYS-325	Strength of Materials	3_4
PHYS-327	Solid State Physics	3
APSC-X49	Cooperative Education or	
APSC-X98	Field Experience	1

Nanoscience

36

BIO-370	Biotechnology	3
CHEM-201	Organic Chemistry	4
CHEM-301	Physical Chemistry	3
CHEM-303	Physical Chemistry Laboratory	1
CHEM-341	Chemistry of Materials I	4
NANO-XXX	Introduction to Nanotechnology	2
NANO-XXX	Nano-Structures	3
NANO-XXX	Nano-Characterization Methods	3
NANO-XXX	Applications of Nanotechnology	3
APSC-X49	Cooperative Education or	
APSC-X98	Field Experience	1

Choose 9 credits from the following courses:

CHEM-204	Organic Chemistry II	3
CHEM-325	Chemistry of Polymers	3
CHEM-440	Advanced Materials Laboratory	3
CHEM-470	Chemistry of Materials II	3
ELEC-290	Circuits and Devices	4
MFGE-352	Polymer Processes	3
MFGT-253	Joining and Casting Processes	3

Program Requirements for the Science Education Concentration

Leads to Wisconsin 601 Licensure in Broadfield Science

Total for graduation	125-126 credits
General Education	42 credits
Physical and Life Sciences	42-43 credits
Education	41 credits

Program Requirements

General Education

42 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English Composition <i>or</i>	
ENGL-111	Freshman English Honors I	3
ENGL-102	Freshman English Reading and Related Writing <i>or</i>	
ENGL-112	Freshman English Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **7 credits**

MATH-153	Calculus	4
STAT-320	Statistical Methods	3

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

LIT-XXX	Any literature course	3
HIST-210	Modern World	3
XXX-XXX	Any creative or performing arts	1-3

Remaining courses must be from any of the humanities and the arts.

E. Social and Behavioral Sciences **9 credits**

POLS-210	American Government	3
PSYC-110	General Psychology	3

Remaining courses must be from areas of anthropology, economics, geography, political science, psychology or sociology.

F. Natural Sciences (with Lab) **5 credits**

CHEM-135	College Chemistry I	5
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G. Technology **2 credits**

Major Studies

83-44 credits required

Physical and Life Sciences **42-43 credits**

BIO-111	Science, Society and the Environment	4
BIO-135	Organismal Biology	5
BIO-136	Molecular Cell Biology	4
BIO-210	Concepts and Issues in Biotechnology	2
CHEM-201	Organic Chemistry I <i>or</i>	
CHEM-331	Quantitative Analysis	3-4
CHEM-353	Environmental Chemistry	3
CHEM-341	Chemistry of Materials	4
PHYS-241	College Physics I	5
PHYS-242	College Physics II	5
PHYS-255	Meteorology	2
PHYS-258	Introduction to Geology	2
PHYS-151	Astronomy	3

Education **41 credits**

EDUC-303	Educational Psychology	3
EDUC-326	Foundations of Education	2
EDUC-336	Multiculturalism: Issues and Perspectives	2
EDUC-376	Cross-Cultural Experience	1
EDUC-382	Secondary Reading and Language Development	2
EDUC-415	Classroom Management	2
SPED-430	Inclusion of Students with Exceptional Needs	3
SCIED-101	Introduction to Science Education	2
SCIED-301	Science Education Methods	3
SCIED-360	Science Education Curriculum/Assessment	3
SCIED-401	Capstone: Science Education	2
SCIED-409	Student Teaching – Science Education	16

Art Education

Introduction

The Art Education program provides students with experience in liberal studies, art history, studio art and professional education. It is a Bachelor of Science degree program that prepares students for certification by the Department of Public Instruction for teaching art in elementary and secondary schools. An understanding of general studies, art history, the present status of art and the educational environment, with an inquisitive approach toward problem solving, will move students to a professional level. Experienced art and design faculty ensure current course content and serve as advisers for students. Preteaching observation, presented at the sophomore level, provides students an early involvement in elementary and secondary schools. A required mid-program review offers students an overview of their progress. Extensive library resources and the art and design department visual resource center are significant assets. Foreign study opportunities allow students variety in cultural experiences. An optional 11 credit additional concentration in Adaptive Education is available.

Students are admitted initially as Pre-Art Education majors. To be fully admitted into the Art Education major, students must:

- Complete ARTED-108 Introduction to Art Education
- Complete EDUC-326 Foundations of Education
- Have a cumulative grade point average of 2.75 at or before 40 credits have been earned
- Pass the Pre-Professional Skills Test (PPST)
- Pass the required teacher background check
- Receive a "C" or better in English, speech, and program requirements
- Complete the General Education Technology requirement

General Requirements

Bachelor of Science Degree

Total for graduation	135 credits
General Education	42 credits
Major Studies	93 credits

A mid-program portfolio review and a screening for continuation in the Art Education program are required for graduation. Before student teaching, students must have a minimum overall grade point average of 2.75, successfully completed the standardized content examination required by the Wisconsin Department of Public Instruction, compiled a professional education portfolio and be fully admitted from pre-Art Education status to the Art Education program. Students present an exhibition of their work during one semester of their senior year (*not during the semester of student teaching*). Students must achieve a minimum grade of "C" (2.0) or better in each class, achieve a 2.75 grade point average in all art, art education, art history, design, and professional education courses, and successfully complete student teaching at both primary and secondary levels before graduation.

Program Requirements

General Education

42 credits required

A. Communication Skills

8 credits

A grade of "C" or better is required in English and speech.

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning

6 credits

MATH-XXX Any Mathematics from the approved General Education list ... 4
Remaining courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

MEDIA-304	Elementary Photography	3
LIT-XXX	Any Literature	3

A remaining course must be from one of the following areas: foreign language and culture, history, music appreciation or philosophy. Either HIST-210 Modern World must be taken under this category or ANTH-220 Cultural Anthropology must be taken under Category E.

E. Social and Behavioral Sciences

9 credits

POLS-210	American Government	3
PSYC-110	General Psychology	3

A remaining course must be from one of the following areas: anthropology, economics, geography or sociology. See previous note under category D.

F. Natural Sciences (with Lab)

4 credits

Choose a biology course, and either a chemistry or physics course.

G. Technology

2 credits

H. General Education Electives

2 credits

Courses must come from categories A, B, D, E and F.

Major Studies

93 credits with a grade of "C" or better in each course is required.

Art and Design Requirements 33 credits

ART-100	Drawing I	3
ART-101	Fundamentals of Design	3
ART-145	The Practice of Art	2
ART-200	Drawing II	1-3
ART-209	Painting I	3
ART-211	Sculpture I	3
ART-213	Ceramics I	3
ART-215	Art Metal I	3
ART-217	Printmaking I	3
ART-445	Senior Seminar	1
ART-407	Aesthetics	3
DES-220	Computer Imagery	3

Studio Selective 3 credits

Select studio course from art metals, ceramics, drawing, life drawing, painting, printmaking, sculpture, graphic, industrial, multimedia, or interior design courses. Course selected may not be from the focus area.

Advanced Studio Selectives 6 credits

Select two additional studio courses from one area: art metal, ceramics, drawing, painting, printmaking, or sculpture.

Art History Requirements 12 credits

ARTH-223	Survey of Art – Ancient through Medieval	3
ARTH-224	Survey of Art – Renaissance through 20th Century	3
ARTH-319	Evolution of Design	3

Select 1 additional 20th century or non-Western art history course from the following:

ARTH-336	Modern Art	3
ARTH-337	Art Since 1950	3
ARTH-228	Oriental Art	3
ARTH-XXX	Other, approved by advisor	3

Professional Education Requirements 39 credits

Students must be fully admitted into the Art Education program to enroll in courses marked with an asterisk ().*

ARTED-108	Introduction to Art Education	2
ARTED-208	Preteaching Observation (<i>Sophomore Year</i>)	2
ARTED-308	Art Education Curriculum, Methods, and Assessment*	4
EDUC-303	Educational Psychology*	3
EDUC-326	Foundations of Education	2
EDUC-336	Multiculturalism: Issues and Perspectives*	2
EDUC-376	Field Experience – Cross Cultural Experience*	1
EDUC-382	Secondary Reading and Language Development*	2
EDUC-XXX	Classroom Management*	2
SPED-430	Inclusion of Students With Exceptional Needs*	3

Select one of the following options:

Option 1

ARTED-408	Student Teaching in the Elementary School – Art*	8
ARTED-409	Student Teaching in the Secondary School – Art*	8

Option 2

ARTED-XXX	Internship*	16
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Art

Introduction

The Bachelor of Fine Arts in Art offers study in Studio Art or concentrations in Industrial Design, Interior Design, Graphic Design or Multimedia Design. The curriculum provides students with experiences in studio work, art history, professional studies and general studies. An understanding of liberal studies, art history, the present status of art and design, and an inquisitive attitude toward experimentation in problem-solving will move students to a professional level in studio art or in their selected concentration. Experienced art and design faculty ensure current course content and serve as advisers to the students in respective areas. A required midprogram portfolio review offers students an overview of their progress. Extensive library resources and the art and design department visual resource center are significant assets. Foreign study opportunities allow students variety in cultural experiences. Internship and cooperative education opportunities supplement educational theory and practice in a setting with working professionals. A 2.5 grade point average and a 2.0 or better in art and design department courses is required to complete this Bachelor of Fine Arts degree. Those who choose major studies in Studio Art must present an exhibition of their work during their senior year. All students who concentrate in design must present a portfolio of their work in the final semester.

General Requirements

Bachelor of Fine Arts Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	18 credits
Concentrations or Studio Art	64 credits

Program Requirements

General Education

42 credits required

A. Communication Skills

8 credits

ENGL-101	Freshman English – Composition <i>or</i>	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112	Freshman English – Honors II <i>or</i>	
ENGL-113	Honors Seminar I	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning

6 credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including creative arts (excluding courses with ART, ARTH, or DES prefixes) foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

4 credits

G. Technology

2 credits

H. General Education Electives

2 credits

Courses must come from categories A, B, D, E and F.

Major Studies

18 credits required

ART-100	Drawing I	3
ART-101	Fundamentals of Design	3
ART-103	Design	3
ART-200	Drawing II	3
ARTH-223	Survey of Art - Ancient through Medieval	3
ARTH-224	Survey of Art - Renaissance through 20th Century	3

Studio Art

64 credits required

The student may complete the following sequence of courses in studio art to complete the art degree without concentration or select a concentration in graphic design, industrial design, interior design, or multimedia design.

Studio and Related Requirements (40 credits)

ART-145	The Practice of Art	3
ART-301	Life Drawing I	3
ART-209	Painting I	3
ART-211	Sculpture I	3
ART-213	Ceramics I	3
ART-215	Art Metal I	3
ART-217	Printmaking I	3
ART-445	Senior Seminar	1
ART-407	Aesthetics	3
ARTH-XXX	Three additional Art History courses (except ARTH-222)	9
	One must be a modern art history.	
DES-220	Computer Imagery	3
MEDIA-204	Exploring Photography	3

Studio Emphasis (15 credits)

Choose additional advanced experiences, totaling at least 15 credits, from a single studio area. Emphases include Art Metals, Ceramics, Drawing, Painting, Printmaking, and Sculpture.

Art Studio Selectives (9 credits)

Six credits must be from outside the studio emphasis, and no more than six credits from DES courses.

Definitions

UW-Stout offers a degree program and a concentration that are similar in name. "Graphic Design" (a concentration in the BFA in Art program) and "Graphic Communications Management" (a separate B.S. degree) are different, and offer students a choice of two professional areas.

Graphic Design encompasses all verbal and visual information produced for commercial reproduction. The graphic designer creates, selects and organizes elements to be reproduced in both print and nonprint formats. The purpose of graphic design is visual communication in a form that is attractive and easily understood. Print materials, exhibition design, video graphics, package design, signage, and corporate identification are examples of work produced by the graphic designer.

Graphic Communications Management prepares supervisors and managers for the printing and publishing industry. Graphic communications managers work with other industry professionals to make decisions on design, estimating, materials, production planning, scheduling and quality control of all types of printed products and materials. Graphic communications managers need an understanding of the printing and publishing processes, including prepress, press and postpress systems.

Concentrations

64 credits required

Graphic Design

64 credits

Studio and Related Requirements (28 credits)

ART-217	Printmaking I (serigraphy recommended)	3
DES-200	Design Theory and Methods	3
DES-210	Letter Form Design	3
DES-220	Computer Imagery	3
DES-205	Presentation Techniques	3
DES-310	Graphic Design I	3
DES-325	Advanced Computer Imagery	3
DES-360	Graphic Design II	3
DES-480	Senior Project – Graphic Design	4

Design Studio Selectives (6 Credits)

Choose one of the following:

DES-380	Signage and Exhibition Design	3
DES-410	Product and Packaging Graphics	3

and one of the following:

DES-382	Information Design	3
DES-384	Advertising Design	3
DES-386	Publication Design	3
DES-388	Typographic Design	3
XXX-XXX	Other courses approved by program director.	

Art Studio Selectives (12 Credits)

Select 6 credits from sculpture, ceramics, or art metal (3D) and 6 credits from painting, drawing, or life drawing (2D) from the following:

ART-200	Drawing II (repeatable)	3
ART-301	Life Drawing I	3
ART-209	Painting I	3
ART-409	Painting II	3
ART-211	Sculpture I	3
ART-411	Sculpture II	3
ART-213	Ceramics I	3
ART-413	Ceramics II	3
ART-215	Art Metal I	3
ART-415	Art Metal II	3
ART-217	Printmaking I	3
ART-417	Printmaking II	3
XXX-XXX	Other ART/DES courses approved by program director	1-3

Additional Art History Requirements (6 Credits)

ARTH-319	Evolution of Design	3
ARTH-XXX	Any Art History (except ARTH-222)	3

Technical Requirements (11 Credits)

GCM-141	Graphic Communications/Electronic Publishing	3
GCM-356	Color Electronic Pre-Press	3
MEDIA-204	Exploring Photography	3
XXX-XXX	Other courses approved by adviser.	

Elective (1 credit)

Industrial Design

64 credits

Studio and Related Requirements (34 credits)

ART-211	Sculpture I	3
DES-200	Design Theory and Methods	3
DES-205	Presentation Techniques	3
DES-220	Computer Imagery	3
DES-310	Graphic Design I	3
DES-XXX	Product Form Design	3
DES-XXX	Body and Form Interface	3
DES-XXX	Form and Function	3
DES-XXX	Advanced Form and Function	3
DES-XXX	Professional Practice	1
DES-XXX	System and Context	3
DES-XXX	Theory and Application	3

Art Studio Selectives (12 credits)

ART-200	Drawing II (<i>repeatable</i>)	3
ART-301	Life Drawing I	3
ART-209	Painting I	3
ART-409	Painting II	3
ART-411	Sculpture II	3
ART-213	Ceramics I	3
ART-413	Ceramics II	3
ART-215	Art Metal I	3
ART-415	Art Metal II	3
ART-217	Printmaking I	3
ART-417	Printmaking II	3
DES-405	Advanced Presentation Techniques for Designers	3
XXX-XXX	Other courses approved by program director	1-3

Additional Art History Requirements (6 credits)

ARTH-319	Evolution of Design	3
ARTH-XXX	Any Art History (<i>except ARTH-222</i>)	3

Technical Requirements (12 credits)

MFGT-110	Materials and Manufacturing Processes	3
MFGT-202	Welding and Casting Processes <i>or</i>	
MFGT-204	Polymer Processes	3
CADD-112	Principles of Engineering Drawing	3
CADD-466	3D Computer Modeling and Rendering	3

Definitions

UW-Stout offers two concentrations that are similar in name. "Interior Design" (*B.F.A. in Art*) and "Interior Decorating" (*B.S. in Retail Merchandising and Management*) are different, and offer students a choice of two professional areas.

Interior designers produce functional and meaningful interior environments (*residential, commercial and public spaces*) by integrating human factors, art and design concepts, space planning, knowledge of architecture, building construction, codes, specifications, materials and furnishings.

The interior design concentration prepares graduates to solve interior design problems, including the initial design and re-modeling of structures as part of an architectural design team or as a consultant.

Interior decorators furnish and accessorize existing or planned spaces using knowledge of color, fabrications, interior decoratives and furniture, fixtures and equipment to accommodate each client's individual taste.

The interior decorating concentration in the Retail Merchandising and Management program provides graduates with business and decorating skills to enter the marketplace in retailing, interiors studios, or their own business, including consulting.

Interior Design 64 credits**Studio and Related Requirements (31 credits)**

DES-200	Design Theory and Methods	3
DES-205	Presentation Techniques	3
DES-220	Computer Imagery	3
DES-303	Interior Design	3
DES-304	Interior Design II	3
DES-308	Lighting Design	3
DES-314	Interior Specifications I	3
DES-414	Interior Specifications II	3
DES-415	Environmental Interior Design I	3
DES-416	Environmental Interior Design II	4

Art Studio Selectives (12 credits)

ART-200	Drawing II (repeatable).....	3
ART-301	Life Drawing I	3
ART-209	Painting I	3
ART-409	Painting II	3
ART-211	Sculpture I	3
ART-411	Sculpture II	3
ART-213	Ceramics I	3
ART-413	Ceramics II	3
ART-215	Art Metal I	3
ART-415	Art Metal II	3
ART-217	Printmaking I	3
ART-417	Printmaking II	3
DES-320	Interior Furniture Design	3
DES-405	Advanced Presentation Techniques for Designers	3
XXX-XXX	Other ART/DES courses approved by program director	1-3

Additional Art History Requirements (6 credits)

ARTH-319	Evolution of Design	3
ARTH-333	Period Furnishings	3

Technical Requirements (14 credits)

AEC-131	Architectural Graphics	3
AEC-171	Light Construction Methods and Materials	3
AEC-233	Architectural Design I	3
CADD-234	Computer Assisted Design and Drafting	2
APRL-140	Textiles or	
APRL-145	Interior Decorating/Design Textiles	3

Electives (1 credit)**Multimedia Design 64 credits****Studio and Related Requirements (25 credits)**

DES-200	Design Theory and Methods	3
DES-220	Computer Imagery	3
DES-310	Graphic Design I	3
DES-360	Graphic Design II	3
DES-325	Advanced Computer Imagery	3
DES-370	Interface Design	3
DES-372	3D Modeling and Animation	3
DES-490	Senior Project-Multimedia Design	4

Design Studio Selectives (9 credits)

DES-205	Presentation Techniques	3
DES-377	Interactive Digital Content Design	3
DES-383	Digital Characters	3
DES-384	Digital Environment	3
DES-385	Interactive Digital Design	3

Art Studio Selectives (12 credits)

ART-200	Drawing II (repeatable).....	3
ART-301	Life Drawing I	3
ART-209	Painting I	3
ART-409	Painting II	3
ART-211	Sculpture I	3
ART-411	Sculpture II	3
ART-213	Ceramics I	3
ART-413	Ceramics II	3
ART-215	Art Metal I	3
ART-415	Art Metal II	3
ART-217	Printmaking I	3
ART-417	Printmaking II	3
XXX-XXX	Other ART/DES courses approved by adviser.	

Additional Art History Requirements (6 credits)

ARTH-319	Evolution of Design	3
ARTH-XXX	Any Art History (except ARTH-222)	3

Technical Requirements (12 credits)

CS-142	Computer Programming for Multimedia I	3
CS-143	Computer Programming for Multimedia II	3
MEDIA-204	Exploring Photography	2-3
MEDIA-430	Audio/Film Production Fundamentals	3

Career, Technical Education and Training

Michael Galloy, Program Director, 148 Communication Technologies Building, 715/232-2163

Introduction

This program prepares teachers for post-high school settings such as junior colleges, public and private technical colleges, and industrial training programs.

A student must obtain a minimum of 2,000 hours of appropriate work experience for provisional certification to teach vocational, technical and adult courses in Wisconsin technical colleges.

Students must make applications for admission to the education sequence. Candidates must hold a cumulative grade point average of at least 2.75.

Articulation Agreement There is an approved articulation agreement for this program with all of the Wisconsin Technical Colleges. The articulation agreement covers all Associate of Applied Art and Associate of Applied Science programs.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	75 credits
Electives	7 credits

Program Requirements

General Education

42 credits required

A. Communication Skills **8 credits**

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning **6 credits**

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

PSYC-110 General Psychology	3
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Remaining courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **4 credits**

G. Technology **2 credits**

H. General Education Electives **2 credits**

Courses must come from categories A, B, D, E and F.

Major Studies

75 credits required

Technical

40 Credits

Because each student brings different qualifications as a result of prior training and experience, the student, with the assistance of the program director, will define all 40 technical credits in terms of student and job competency needs.

Professional Education

35 Credits

MEDIA-360 Introduction to Media in Education and Training	2
INMGT-400 Organizational Leadership or	
PSYC-382 Human Resource Management	3
TECED-205 Teaching Methods – Technology/Vocational Education**	2
TECED-405 Curriculum Technology/Vocational Education**	2
TECED-406 Evaluation in Technology/Vocational Education**	2
TECED-408 Student Teaching – Technology/Vocational Education or	
TRHRD-389 Training Internship	2-8
TRHRD-360 Training Systems in Business and Industry	3
VTAE-302 Principles of Vocational, Technical and Adult Education	2
VTAE-334 Task Analysis	2
VTAE-474 Adult Education	2
SCOUN-301 Introduction to Guidance**	2
EDUC-336 Multiculturalism: Issues and Perspectives**	2
EDUC-400 Educational Psychology for the Adult Learner	2

*** Course content is mandated for Vocational, Technical and Adult Education certification.*

Electives

7 credits required

Construction

Introduction

The Construction program is designed to prepare individuals for a variety of responsible positions in the field of construction.

Broad objectives of the program include developing fundamental knowledge of science, engineering, business, management, architecture and construction principles; applying scientific, technological and management principles to the solution of construction problems; and integrating diverse scientific and technical areas as they impact on the construction field.

General Requirements

Bachelor of Science Degree

Total for graduation	129 credits
General Education	46 credits
Major Studies	74 credits
Writing and Science Preparation	6 credits
Electives	3 credits

Program Requirements

General Education

46 credits required

A. Communication Skills 8 credits

ENGL-101	Freshman English – Composition <i>or</i>	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning 6 credits

MATH-153	Calculus I	4
STAT-130	Elementary Statistics	2

C. Health and Physical Education 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 credits

ECON-201	General Economics <i>or</i>	
ECON-210	Principles of Economics I	3
POLS-210	American Government	3
SOC-110	Introductory Sociology <i>or</i>	
PSYC-110	General Psychology	3

F. Natural Sciences (with Lab) 10 credits

PHYS-241	College Physics I <i>and</i>	
PHYS-242	College Physics II	10

G. Technology 2 credits

Major Studies

74 credits required

Business and Management 18 credits

INMGT-300	Engineering Economy	3
INMGT-400	Organizational Leadership	3
BUACT-201	Financial–Managerial Accounting <i>or</i>	
BUACT-206	Introduction to Financial Accounting	3
BUMGT-304	Principles of Management	3
BUMKG-330	Principles of Marketing	3
PSYC-382	Human Resource Management	3

Architecture, Engineering and Construction 56 credits

RC-388	Construction Safety	2
BULGL-473	Legal Aspects of Construction	3
AEC-131	Architectural Graphics	3
AEC-171	Light Construction Methods and Materials	3
AEC-190	Orientation to Construction Industry	1
AEC-237	Architectural Technology	3
AEC-270	Heavy Construction Methods and Equipment	3
AEC-273	Concrete and Masonry Technology	3
AEC-357	Site Engineering	3
AEC-438	Contract Requirements and Specifications	3
AEC-452	Environmental Systems – HVAC	3
AEC-453	Environmental Systems – Plumbing and Electrical	3
AEC-458	Structural Systems – Wood and Steel	3
AEC-459	Structural Systems – Concrete and Masonry	3
AEC-370	Construction Estimating I	3
AEC-470	Construction Estimating II	2
AEC-472	Management of Construction	3
AEC-471	Project Scheduling and Cost Control	3
AEC-449	Cooperative Education Experience	2
PHYS-321	Statics and Strength of Materials	4

Writing and Science Preparation

6 credits required

ENGL-320	Business Writing <i>or</i>	
ENGL-415	Technical Writing	3
PHYS-257	Introduction to Geology and Soil Mechanics	3

Electives

3 credits required

Dietetics

Carol Seaborn, Program Director, 225 Home Economics Building, 715/232-2216

Introduction

The Dietetics program prepares graduates for careers in clinical and administrative dietetics, community and public health nutrition, corporate wellness, and nutrition education as well as for opportunities in the food services, business and industry.

The Dietetics program is currently granted approval status by the Commission on Accreditation for Dietetics Education, of the American Dietetic Association, 216 W. Jackson Blvd., Chicago, IL, 60606-6995, phone 212/299-4876. Completion of the Didactic Program in dietetics and the baccalaureate degree meet minimum academic requirements for ADA membership, registration eligibility and application to a dietetic internship or preprofessional practice program.

The dietetic student receives an education with an emphasis on the following sciences: physical and biological; behavioral and social; communication and professional. With this background, the student can move toward the community and business management of nutritional health, food service and dietetic practices.

General Requirements

Bachelor of Science Degree

Total for graduation	124-125 credits
General Education	45-46 credits
Major Studies	71 credits
Professional Emphasis Area	8 credits

Students must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.

Supervised work experience must be obtained through participation in the Field Experience program.

Students must attain a grade point of 2.0 or better in each of the General Education and Major Studies courses. (*All transferred credits will meet this program requirement.*) A 2.75 or greater grade point average is required for graduation. A minimum grade of B (3.0) is required in FN-212 Nutrition. Courses marked with an asterisk (*) are repeatable only once, and require a cumulative grade point average of 2.50, except for FN-212, which requires a 3.0, or "B."

Program Requirements

General Education

45-46 credits required

A. Communication Skills

8 credits

ENGL-101	Freshman English – Composition <i>or</i>	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning

6-7 credits

STAT-130	Elementary Statistics <i>or</i>	
STAT-320	Statistical Methods	2-3
MATH-120	Introductory College Mathematics I (<i>or more advanced</i>)	4

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

POLS-210	Government	3
PSYC-110	General Psychology	3
<i>Choose one of the following:</i>		
SOC-110	Introductory Sociology	3
SOC-225	Social Problems	3
ANTH-220	Cultural Anthropology	3
ANTH-300	Native Americans	3

F. Natural Sciences (with Lab)

9 credits

BIO-134	Physiology and Anatomy for Health Sciences*	4
CHEM-115	General Chemistry* <i>or</i>	
CHEM-125	Principles of Chemistry for Health Sciences* <i>or</i>	
CHEM-135	College Chemistry I*	5

G. Technology

2 credits

Major Studies

71 credits required

Physical and Biological Sciences 15 Credits

BIO-306	General Microbiology	4
BIO-362	Advanced Physiology	3
CHEM-201	Organic Chemistry	4
CHEM-311	Biochemistry	4

Nutrition and Medical Nutrition Therapy 16 credits

FN-212	Nutrition*	3
FN-207	Medical Terminology	1
FN-320	Advanced Nutrition	3
FN-418	Diet Therapy	4
FN-312	Nutrition Assessment	2
FN-413	Maternal and Child Nutrition <i>or</i>	
FN-415	Nutritional Issues in Gerontology	3

**Nutrition Education/Counseling,
Communication and Community Nutrition 12 credits**

FN-406	Nutrition Education	3
ENGL-320	Business Writing <i>or</i>	
ENGL-415	Technical Writing <i>or</i>	
ENGL-346	Research Reporting	3
FN-360	Nutrition Counseling	3
FN-380	Community Nutrition	3

Food and Food Science 10 credits

FN-240	Food Science	4
FN-438	Experimental Foods	3
FN-461	Multicultural Aspects of Food and Nutrition Patterns	3

Food Service Administration/Management 15 credits

BUMGT-304	Principles of Management	3
HT-324	Quantity Food Production	4
HT-450	Food Service Administration	3
HT-150	Institutional Food Purchasing	2
HT-362	Food, Beverage, and Labor Cost Controls	3

Career Awareness 3 credits

FN-101	Dietetics as a Profession	1
FN-397	Field Experience	2

Professional Emphasis Area

8 credits required

Select 8 credits in an appropriate area of emphasis or combine credits in emphasis area, or use credits toward a minor, or choose other elective credits, all with the approval of a program director. Emphasis areas include Aging and Nutrition, Culinary Arts/Communications, Food and Nutrition, Fitness and Nutrition, Food Science and Technology, Health and Nutrition Behavior, Management of Nutrition Services, Nutrition and Rehabilitation, Nutrition Generalist, Nutrition Marketing and Public Relations, and Training/Education in Nutrition Practice.

Early Childhood Education

Judy Herr, Program Director, 119 Home Economics Building, 715/232-2486

Introduction

Curriculum in the Early Childhood Education program is designed to prepare resourceful, creative and competent graduates to work in settings with young children. The program emphasizes theory and practice and meets the requirements for birth through grade three teaching certification for the State of Wisconsin. Academic course work is enriched by involvement with children in early childhood settings early in the program, with observation and participation experiences in UW-Stout's Child and Family Study Center. Graduates are employed as preschool, kindergarten and primary teachers, and administrators of early childhood care centers, curriculum specialists, and resource and referral specialists within corporations and the public sector.

General Requirements

Bachelor of Science Degree

Total for graduation	127 credits
General Education	48 credits
Major Studies	79 credits

Students must demonstrate proficiency in American Red Cross First Aid procedures, either by verifying current certification with their adviser, or by satisfactory completion of HLTH-340 ARC Standard First Aid and Personal Safety (*adding 1 credit to the program credit total*).

* Required courses with a grade point of 2.0 (C) or better. Courses in which a student earns less than the required 2.0 must be retaken and at least a 2.0 earned prior to student teaching.

** Required major courses with grade point of 2.67 (B-) or better. Courses in which a student earns less than the required 2.67 must be retaken and at least a 2.67 earned prior to student teaching.

Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits.

- ▶ Complete EDUC-326 Foundations of Education
- ▶ Pass the PPST (*Pre-Professional Skills Test*)
- ▶ Attain a 2.75 cumulative grade point average
- ▶ Pass the required teacher background check
- ▶ Earn a grade of at least 2.00 (C) in ENGL- 101 and ENGL-102 or ENGL-111 and ENGL-112.
- ▶ Earn a minimum grade of 2.00 (C) in SPCOM-100 Fundamentals of Speech.
- ▶ Complete General Education Technology requirement
- ▶ Receive three recommendations to enter into teacher education

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching.

- ▶ Complete electronic portfolio
- ▶ Receive satisfactory portfolio assessment by faculty
- ▶ Pass Content Knowledge Exam
- ▶ Receive clearance through an updated background check
- ▶ Maintain a 2.75 grade point average
- ▶ Complete a satisfactory tuberculosis (TB) test
- ▶ Submit copies of resume to the School of Education prior to student teaching
- ▶ Complete Application for Student Teaching form

Benchmark III: Program Completion

Benchmark III must be completed before you can be recommended for licensure.

- ▶ Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- ▶ Complete all program coursework
- ▶ Meet all program-specific requirements
- ▶ Student teach at three levels: infant/toddler/preschool, kindergarten and primary.
- ▶ Receive a satisfactory student teaching assessment

Program Requirements

General Education

48 credits required

A. Communication Skills	8 credits
ENGL-101 Freshman English – Composition* <i>or</i>	
ENGL-111 Freshman English – Honors I*	3
ENGL-102 Freshman English – Reading and Related Writing* <i>or</i>	
ENGL-112 Freshman English – Honors II*	3
SPCOM-100 Fundamentals of Speech*	2
B. Analytic Reasoning	6 credits
MATH-118 Concepts of Mathematics (<i>or more advanced</i>)*	4
STAT-130 Elementary Statistics	2
C. Health and Physical Education	2 credits
FN-102 Nutrition for Healthy Living	2-3
D. Humanities and the Arts	10-11 credits
LIT-300 Children's Literature*	3
HIST-120 Early U.S. History <i>or</i>	
HIST-121 Modern U.S. History	3
HIST-210 Modern World	3
<i>Remaining courses must be from areas of creative or performing arts or art history.</i>	
E. Social and Behavioral Sciences †	12 credits
ANTH-220 Introduction to Cultural Anthropology	3
GEOG-104 World Geography	3
POLS-210 American Government	3
PSYC-110 General Psychology *	3
F. Natural Sciences (with Lab)	8 credits
BIO-101 Introductory Biology*	4
CHEM-105 Visualizing Chemistry *	2
PHYS-250 Introduction to Geology*	2
G. Technology	2 credits

Major Studies

79 credits required

Early Childhood Education major studies	44 credits
ECE-100 Introduction to Early Childhood Programs*	1
ECE-303 Developmentally Appropriate Practice: Infants and Toddlers*	3
ECE-307 Developmentally Appropriate Practice: Preschool*	4
ECE-309 Developmentally Appropriate Practice: Kindergarten-Primary*	2
ECE-364 Observing and Guiding Children: Early Childhood Classrooms**	3
ECE-410 Early Childhood Curriculum: Science*	3
ECE-411 Early Childhood Curriculum: Mathematics*	3
ECE-412 Early Childhood Curriculum: Social Studies*	3
ECE-413 Language Arts and Emergent Reading: Birth-K*	3
ECE-414 Language Arts and Emergent Reading: K and Primary*	2
ECE-421 Administration of Early Childhood Programs*	2
ECE-426 Advanced Classroom Management and Guidance**	3
ECE-435 Children, Families, Schools, and Communities**	3
FN-236 Nutrition for Young Children*	1-2
HDFS-124 Human Development: Early Childhood**	3
PE-265 Physical Activities for Young Children*	2
MUSIC-206 Music for the Young Child*	2
Student Teaching	24 credits
ECE-480 Student Teaching: Infant, Toddler, Preschool*	8
ECE-493 Student Teaching: Kindergarten*	8
ECE-494 Student Teaching: Primary*	8
<i>ECE-488 Intern Teaching can be taken to replace any level of student teaching.</i>	
Professional Education Core	11 credits
EDUC-303 Educational Psychology*	3
EDUC-326 Foundations of Education*	2
EDUC-336 Multiculturalism: Issues and Perspectives*	2
EDUC-376 Field Experience – Cross Cultural Experience *	1
SPED-430 Inclusion of Students with Exceptional Needs*	3

Food Systems and Technology

Carolyn Barnhart, Program Director, 368 Home Economic Building, 715/232-2545

Introduction

The Food Systems and Technology program prepares graduates for careers in the nation's largest business-the food industry. The Food Systems and Management concentration prepares graduates to administer large quantity food production and service facilities everywhere, from cruise ships to hospitals, schools and prisons. Graduates may also manage catering operations or restaurants and delis. Entry-level positions for graduates of the Food Science concentration include assistant food scientist, quality assurance manager, food analyst, food/ingredient development team member, technical representative and government relations officer. The Food Merchandising and Distribution concentration prepares graduates for positions such as supermarket, convenience store or food discount club management; manufacturer sales; food broker; specialty food merchandising; and marketing specialist. The Food Communication concentration prepares graduates for a variety of careers including food styling, magazine or newspaper writing and editing, food and nutrition television reporter, food promotion specialist or food industry home economist. The Food Packaging concentration prepares graduates for a variety of careers in the food packaging industry including design and management as it relates and impacts the food item.

General Requirements

Bachelor of Science Degree

Total for graduation	126 credits
General Education	42 credits
Major Studies	42 credits
Concentration	42-48 credits

The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.

Work experience must be obtained through participation in the Field Experience program (*after junior year*).

All transfer credits must have a grade point of 2.0 or better. A 2.25 or better grade point average is required for graduation. All major studies courses must have a 1.67 or better grade point average.

Program Requirements

General Education

42 credits required

A. Communication Skills	8 credits
ENGL-101 Freshman English – Composition <i>or</i>	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 credits

MATH-120 Introductory College Mathematics I <i>or</i>	
MATH-154 Calculus II	4
<i>Remaining courses must be from the areas including math, logic, statistics and computer science.</i>	

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

ECON-210 Principles of Economics I (<i>recommended</i>)	3
<i>Courses must be from three areas including anthropology, economics, geography, political science, psychology and sociology.</i>	

F. Natural Sciences (with Lab)

4 credits

BIO-234 Physiology and Anatomy	4
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G. Technology

2 credits

FN-222 Food Technology (<i>recommended</i>)	2
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H. General Education Electives

2 credits

Required courses from the major studies component will fulfill these requirements.

Major Studies

42 credits

BIO-306 General Microbiology	4
INMG-400 Organizational Leadership	3
BUMKT-330 Principles of Marketing	3
EDUC-307 Applied Human Relations	2
FN-111 Food Systems and Technology Futures	1
FN-124 Foods <i>or</i>	
FN-240 Food Science	4
FN-208 Management of Food Production	3
FN-212 Nutrition	2-3
FN-442 Basic Sensory Analysis	3
FN-449 Cooperative Education/Internship <i>or</i>	
FN-497 Field Experience	2
FN-XXX Senior Project	1-4
PKG-150 Packaging Fundamentals	2

Select 2 credits from the following:

ENGL-415 Technical Writing <i>or</i>	
SPCOM-308 Speech Skills for Business and Industry	2

Select 5 credits from the following:

CHEM-115 General Chemistry <i>or</i>	
CHEM-125 Principles of Chemistry for Health Sciences <i>or</i>	
CHEM-135 College Chemistry I	5

Select up to 4 credits of Major Studies Electives

XXX-XX Electives	0-4
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Concentrations

43 credits required

Food Systems Management

43 credits

BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Introduction - Corporate and Managerial Accounting	3
BUMGT-304	Principles of Management	3
FN-260	Menu Planning and Design	2
FN-310	Lifespan Nutrition	3
FN-420	Food Styling	3
HT-324	Quantity Food Production	4
HT-362	Food, Beverage and Labor Cost Controls	3
HT-353	Computer Systems for Food Service	2
HT-450	Food Service Administration	3
HT-323	Food Service Equipment	2
XXX-XXX	Electives *	6

Take two of the following courses:

FN-410	Food Policy Regulation and Law	3
FN-414	Catering or	
HT-424	Catering	3
FN-461	Multicultural Aspects of Food and Nutrition Patterns	3

* BIO-206 Food Service and Environmental Sanitation (1 credit) may give students sanitation certification from the Educational Foundation of the National Restaurant Association.

* ECON-215 Principles of Economics II and declaration on application may give students a Business Administration minor.

Food Science

48 Credits

INMGT-200	Production/Operations Management	3
INMGT-320	Quality Tools	3
FN-342	Advanced Foods	3
FN-350	Food Processing	3
FN-410	Food Policy Regulation and Law	3
FN-438	Experimental Foods	3
FN-450	Food Engineering	3
BIO-406	Food Microbiology	3
CHEM-201	Organic Chemistry I	4
CHEM-311	Biochemistry	4
CHEM-315	Food Chemistry	3
CHEM-335	Instrumental Methods of Analysis	3
STAT-320	Statistical Methods	3
MATH-153	Calculus I or	
MATH-156	Calculus and Analytic Geometry	4
PHYS-211	Introduction to Physics	3

Food Merchandising and Distribution

44 Credits

BUACT-206	Introduction to Financial Accounting	3
BUMKG-334	Salesmanship and Sales Management or	
BURTL-229	Visual Merchandising	3
BUMKG-370	Principles of Advertising or	
BURTL-425	Current Retail Strategies for a Differential Advantage	2
BUMKG-438	Industrial Distribution	3
FN-225	Special Topics in Food and Nutrition	1-2
FN-202	Food and Beverage Distribution Industry	3
FN-470	Food Distribution Operations and Control	3
FN-410	Food Policy Regulation and Law	3
FN-420	Food Styling	3
FN-438	Experimental Foods	3
HT-324	Quantity Food Production	4
HT-450	Food Service Administration	3
HT-323	Food Service Equipment	2

PSYC-377	Consumer Psychology	3
XXX-XXX	Electives	2

Select 3 credits from the following:

BUMGT-480	Entrepreneurship: Small Business Planning or	
BURTL-431	Service Management Strategies or	
HT-362	Food, Beverage and Labor Cost Controls or	
ECON-215	Principles of Economics II	3

Food Communication

42 Credits

MEDIA-304	Elementary Photography	3
GCM-141	Graphic Communications and Electronic Publishing	3
GCM-345	Publications Production	3
BUMKG-334	Salesmanship and Sales Management	3
BUMKG-370	Principles of Advertising	3
BUMKG-479	Marketing Research	3
FN-260	Menu Planning and Design	2
FN-310	Lifespan Nutrition	3
FN-325	Recipe Development and Cookbook Writing	1
FN-414	Catering or	
HT-424	Catering	3
FN-420	Food Styling	3
FN-438	Experimental Foods	3
FN-461	Multicultural Aspects of Food and Nutrition Patterns	3
ENGL-XXX	Any Journalism	2-3

Select 2-3 credits from the following:

FN-342	Advanced Foods	3
FN-410	Food Policy and Law	3
FN-XXX	Any Food and Nutrition	2-3

Select 2-3 credits from the following:

MEDIA-XXX	Any Media Technology	2-3
GCM-XXX	Any Graphic Communications	2-3
BUXXX-XXX	Any Business Administration	2-3
ART-XXX	Any Art	2-3
ENGL-XXX	Any English or Journalism	2-3

Food Packaging

42 credits

BIO-406	Food Microbiology	3
CHEM-201	Organic Chemistry I	4
CHEM-315	Food Chemistry	3
FN-XXX	Quality Foods	3
FN-325	Food Packaging	3
FN-410	Food Policy Regulation and Law	3
FN-450	Food Engineering	3
MATH-154	Calculus II	4
PKG-XXX	Food Packaging Lab	3
PKG-200	Packaging Materials	3
PKG-250	Consumer Packaging Systems	3
PKG-335	Packaging Machinery	3
PKG-350	Packaging Design and Evaluation	2
STAT-130	Elementary Statistics	2

Golf Enterprise Management

Introduction

The B.S. in Golf Enterprise Management program provides a comprehensive and challenging academic experience that will prepare graduates who are leaders in the golf business profession. The program will offer a broad exposure to all facets of the business of golf industry through its interdisciplinary curriculum. The program includes exposure to golf industry best practices. Students are immersed in experiential learning through well-defined co-ops and internships.

Upon graduation, students will be able to analyze major trends in the golf industry, including tourism, consumer interests, course ownership and management, and golf retail businesses. Graduates will be able to distinguish the missions of principal national and international associations in the golf industry; understand golf facility operations from perspectives of resort, private, municipal, and daily fees courses; apply business, accounting, and marketing principles to meet management needs of golf enterprises; develop and apply strategies for attracting new customers and retaining existing customers of golf operations; apply the principles of turf management, soil science and environmental science to the layout, design and management of golf courses; and integrate the knowledge and skills obtained in the curriculum through practical experiences in the golf industry.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	53 credits
Electives	29 credits

Program Requirements

General Education

42 Credits

A. Communication Skills

8 credits

ENGL-101	Freshman English: Composition <i>or</i>	
ENGL-111	Freshman English: Honors I	3
ENGL-102	Freshman English: Reading and Related Writing <i>or</i>	
ENGL-112	Freshman English: Honors II	3
SPCOM-100	Fundamentals of Speech*	2

B. Analytic Reasoning

6 credits

MATH-123	Finite Math With Applications (<i>or higher</i>)	4
STAT-130	Elementary Statistics	2

C. Health and Physical Education

2 credits

PE-129	Golf	1
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Select remaining 1 credit from the approved course list.

D. Humanities and the Arts

9 credits

Select 9 credits from the approved course list from three different areas.

E. Social and Behavioral Sciences

9 credits

ECON-210	Principles of Economics I**	3
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Select remaining 6 credits from the approved course list.

F. Natural Sciences (with Lab)

4 credits

Select 4 credits from the approved course list.

G. Technology

2 credits

Select 2 credits from the approved course list.

H. General Education Electives

2 credits

Select 2 additional credits from categories A, B, D, E or F.

Major Studies

53 Credits

GEM-101	Introduction to Golf Enterprise Management*	1
GEM-201	Principles of Golf Enterprise Management*	3
GEM-301	Customer Development, Retention and Marketing*	3
BUACT-206	Introduction to Financial Accounting**	3
BUMGT-304	Principles of Management** <i>or</i>	3
INMGT-400	Organizational Leadership	
BUMKG-330	Principles of Marketing** <i>or</i>	3
HT-251	Hospitality Marketing and Sales	
BUACT-340	Business Finance <i>or</i>	3
HT-462	Hospitality Financial Analysis/Budget/Forecasting*	
BULGL-318	Business Law <i>or</i>	3
HT-460	Hospitality Law and Liability*	
BURLT-127	Basic Merchandising	3
HT-370	Principles of Property Management	3
HT-362	Food and Beverage Cost Control*	3
PSYC-382	Human Resource Management*	3
SRVM-111	Introduction to Service Management*	3
GEM-266	Golf Course Soils, Layout and Design*	
	(taught by UW-RF faculty)	3
GEM-366	Turf Management for Golf Courses*	
	(taught by UW-RF faculty)	3
GEM-466	Golf Course Management and the Environment*	
	(taught by UW-RF faculty)	3
INMGT-210	Operations Management <i>or</i>	3
INMGT-220	Quality Systems	
GEM-XXX	Co-op or Field Experience	
	(Two co-ops or field experiences are required)	4

* Currently available in an online format.

** Required courses in the Business Minor. By taking these five courses along with ECON-215 and four additional Business Minor elective credits, you can fulfill the requirements for a Business Minor.

Electives

29 Credits

Electives will be guided by advisement to meet your professional goals and objectives. You may elect to take a minor or specialization to fulfill the elective credits.

Graphic Communications Management

Introduction

UW-Stout's Bachelor of Science Degree program in Graphic Communications Management prepares managers and supervisors for the printing and publishing industry. Students develop an understanding of the production process, from design through manufacturing of a product to distribution of that product. As members of a production team, graphic communication managers work with other professionals in the industry to make important decisions on design, estimating, materials, production planning, inventory, scheduling and quality control of printed products.

Through intensive hands-on laboratory environment, the program addresses skills necessary for students to succeed in the global marketplace of print media. A strong emphasis is placed on the application of theory and laboratory experience to the solution of real world problems. This program will prepare pragmatic managers of print production with the ability to respond aggressively to the needs of the marketplace; to apply research and theory to the development of marketable print media products using efficient processes; and to design with an awareness of the realities of the manufacturing process, cost, environment and needs of the customer and society.

Students involved in Graphic Communications Management are required to enroll in an industrial work experience program for six to eight months in the printing, publishing and packaging industry to gain practical experience to bridge the gap from the academic classroom and laboratories of the university to the real world of work.

Well-rounded professionals are produced by a balanced curriculum made up of the following components: general education; professional management studies; and technical skills that apply to a selected professional emphasis area.

Three student professional organizations complement the classroom and laboratory experiences encountered by Graphic Communications Management Students. The Stout Typographical Society (STS) is production-focused organization that runs a printing business and sponsors industry speakers, golf tournaments and social events, as well as an annual three-day industry field trip. The Technical Association of the Graphic Arts (TAGA) is a research oriented organization whose members research and write technical research papers that are compiled into a technical publication and entered in a competition at an international conference each spring. Graphic Communications eXchange (GCX) is a management-oriented organization that promotes leadership and professional development in its members through a wide variety of activities.

The Graphic Communications Management program is accredited by the National Association of Industry Technology (NAIT).

Definitions

UW-Stout offers a degree program and a concentration that are similar in name. "Graphic Communications Management" and "Graphic Design" (*a concentration in the BFA in Art program*) are different, and offer students a choice of two professional areas.

Graphic Communications Management prepares supervisors and managers for the printing and publishing industry. Graphic communications managers work with other industry professionals to make decisions on design, estimating, materials, production planning, scheduling and quality control of all types of printed products and materials. Graphic communications managers need an understanding of the printing and publishing processes, including prepress, press and postpress systems.

Graphic Design encompasses all verbal and visual information produced for commercial reproduction. The graphic designer creates, selects and organizes elements to be reproduced in both print and nonprint formats. The purpose of graphic design is visual communication in a form that is attractive and easily understood. Print materials, exhibition design, video graphics, package design, signage, and corporate identification are examples of work produced by the graphic designer.

General Requirements

Bachelor of Science Degree

Total for graduation	124
General Education	49
Major Studies	63
Emphasis Area	12

Program Requirements

General Education

49 credits required

A. Communication Skills **8 Credits**

ENGL-101	Freshman English – Composition	3
ENGL-102	Freshman English – Reading and Writing	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **6-7 Credits**

STAT-130	Elementary Statistics or	
STAT-320	Statistical Methods	2-3
MATH-121	Introductory College Mathematics II	4

C. Health and Physical Education **2 Credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 Credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 Credits**

ECON-201	General Economics or	
ECON-210	Principles of Economics	3

Remaining courses must be from two additional areas including anthropology, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **13 Credits**

BIO-111	Science, Society and Environment	4
CHEM-115	General Chemistry	5
PHYS-211	Introduction to Physics	4

G. Technology **2 Credits**

Major Studies

63 credits required

Professional Management Component **25 credits**

GCM-495	Graphic Communications Seminar	3
GCM-480	Graphic Communications Customer Service and Administration	3
GCM-X49	Cooperative Education Experience	2
INMGT-120	Quality Concepts	3
INMGT-200	Production Operations Management	3
INMGT-300	Engineering Economy	2
INMGT-400	Organizational Leadership	3
BUACT-201	Financial – Managerial Accounting	3
BUACT-206	Accounting I	3
BUMKG-330	Principles of Marketing	3

Technical Component **38 credits**

GCM-141	Graphic Communications	3
GCM-151	Prepress Tools and Processes	3
GCM-251	Digital Pre-Press File Creation	3
GCM-266	Digital and Offset Press Systems	4
GCM-270	Post-Press Operations and Planning	3
GCM-351	Digital Prepress Workflow Management	3
GCM-363	Package Printing	4
GCM-367	Reproduction Measurement and Control	3
GCM-380	Graphic Communications Estimating and Scheduling	3
GCM-443	Graphic Communications Practicum	3
GCM-445	Publication Production	3
GCM-470	Graphic Communications Distribution Management	3

Emphasis Areas **12 credits**

Choose a 12-credit emphasis area from the list provided by your advisor. Current areas include: Sales/Marketing, Packaging, Production Supervision, Production Operations, Industrial Safety/Loss, Quality, Digital Photography, Training and Development, Technical Writing, Layout and Design, or a customized emphasis approved by your advisor.

Hotel, Restaurant and Tourism Management

Introduction

Hotel, restaurant and tourism management is one of the largest and fastest growing industries in the United States. Each year, leisure time increases for thousands of Americans, and the demands on the hospitality industry are growing. Existing lodging and dining facilities are expanding and new businesses are developing to accommodate the increased demand for hospitality services.

UW-Stout's Hotel, Restaurant and Tourism Management majors receive a variety of training. The program includes studies in general education to provide students a flexible background, enabling them to adapt to a wide variety of situations in today's rapidly changing society. A choice of concentrations and professional selectives provide students with flexibility to pursue a specialized field of study. The four-year curriculum is designed to prepare competent, creative and responsible managers. Graduates are employed in the hospitality food and beverage industry, hotels and tourism facilities.

General Requirements

Bachelor of Science Degree

Total for graduation 124 credits
General Education 42 credits
Major Studies 45 credits
Concentration and Concentration Selectives 37 credits
The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments. A "C-" (1.67) or better is required for each course in the major studies.

A 2.5 grade point average is required for graduation.

Program Requirements

General Education

42 credits required

A. Communication Skills

8 credits

ENGL-101	Freshman English – Composition <i>or</i>	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning

6 credits

STAT-130	Elementary Statistics	2
MATH-118	Concepts of Mathematics (<i>or more advanced</i>)	4

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

ECON-210	Principles of Economics I	3
<i>Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.</i>		

F. Natural Sciences (with Lab)

4 credits

G. Technology

2 credits

H. General Education Electives

2 credits

Course(s) must come from categories A, B, D, E or F.

Major Studies

45 credits required

BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Introduction to Corporate and Managerial Accounting	3
FN-XXX	Introduction to the Foods Industry	2
HT-100	Introduction to Hospitality	2
HT-XXX	Introduction to the Food Service Industry	2
HT-135	Lodging Systems	3
HT-140	Introduction to Tourism	3
HT-200	Hospitality Organization Management	3
HT-251	Hospitality Marketing and Sales	3
HT-362	Food, Beverage and Labor Cost Controls	3
HT-427	Professionalism: Work Environment	2
HT-454	Security and Risk Management for Hospitality Industry	3
HT-XXX	Managing Diversity in the Hospitality Industry	2
HT-457	Hospitality Management Strategies	3
HT-460	Hospitality Industry Law and Liability	3
HT-461	Hospitality Employee Relations	3
HT-498	Field Experience <i>or</i>	
HT-449	Cooperative Education Experience	2

Concentration, Minor, or Professional Selectives

37 credits required

Students complete the degree with up to two concentrations or one concentration plus a customized concentration from a list of professional selectives chosen in consultation with the program director.

Lodging Management 15 credits

HT-335	Lodging Operations	3
HT-351	Hospitality Convention/Meeting Planning	3
HT-383	Yield Management	3
HT-430	Lodging Administration	3
HT-XXX	Time Share Administration	3

Food Service Management 15 credits

HT-150	Institutional Food Purchasing	2
HT-324	Quantity Food Production	4
FN-XXX	Art and Science of Food	3
HT-353	Computer Systems for Food Service	3
HT-426	Restaurant Operations	3

Resort Development and Tourism Management 14 credits

HT-240	Tourism Goods and Services	3
HT-330	Resort Planning and Operations or	
HT-340	Development of Tourism Attractions	3
HT-351	Hospitality Convention/Meeting Planning	3
HT-360	Hospitality and the Handicapped Traveler	2
HT-440	Sociocultural Systems of Tourism or	
HT-XXX	Time Share Administration	3

International Hospitality Management 18 credits

A single Foreign Language	6
One semester in an approved study abroad program	12

Property Management 14 credits

BULGL-365	Principles of Real Estate	2
HT-370	Principles of Property Management	3
HT-371	Commercial/Residential	
	Property Development and Management	3
HT-470	Seminar in Property Management	3
HT-XXX	Time Share Administration	3

Gaming Management 14 credits

HT-315	Gaming Management	3
HT-316	Casino Operations Management	3
HT-317	Psychosocial Issues in Gaming	3
HT-360	Hospitality and the Handicapped Traveler	2
HT-418	Casino Tourism	3

Hospitality Management 29-30 credits

This concentration is offered to those students with advanced experiences in hospitality management and for transfer students into the major. This customized concentration will be developed by the student under the supervision of the program director. All courses must be approved in advance by the program director.

Concentration Selectives

7-23 credits

Students complete the degree by selecting a second concentration from above or customizing a second concentration using courses from a list provided by the program director.

Human Development and Family Studies

Robin Muza, Program Director, 122 Home Economics Building, 715/232-1115

Introduction

The Human Development and Family Studies program is the study of human development and family life in which child, family and community are viewed as interrelated. A multidisciplinary approach provides content and theory to enhance the understanding of people and to develop creative approaches to serving them. Graduates of the program locate positions in family life education, human services and agency-related employment settings, in addition to being prepared for advanced study.

The program integrates academic study with significant experiential learning with children, families and community groups. Students are involved in observation/participation, field experience, independent study and practicum throughout the program. Hospitals, human service agencies, community groups, adolescent group homes and homes for senior citizens provide opportunities for the synthesis of practical and theoretical knowledge.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	48 credits
Major Studies	49 credits
Concentration or minor	22 credits
Electives	5 credits

Students must have a cumulative grade point average of 2.5 within the major studies for graduation and to register for the practicum experience.

Program Requirements

General Education

48 credits required

A. Communication Skills

8 credits

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning

6 credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

15 credits

POLS-210	American Government	3
SOC-110	Introductory Sociology	3
PSYC-110	General Psychology	3

Remaining 6 credits can be taken from anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

4 credits

G. Technology

2 credits

H. General Education Electives

2 credits

Courses must come from categories A, B, D, E and F.

Major Studies

49 credits required

HDFL-101	Introduction to Human Development and Family Studies	1
HDFL-115	Individual and Family Relations*	3
HDFL-124	Human Development: Early Childhood*	3
HDFL-215	Dynamics of Family Development*	3
HDFL-225	Skill Training for Individual/Family Interventions*	3
HDFL-264	Child Guidance*	3
HDFL-325	Human Development: Mid-Childhood/Adolescence*	3
HDFL-330	Human Development: Early/Middle Adulthood*	3
HDFL-335	Seminar – The Culturally Distinct Child and Family*	2
HDFL-336	Experience: The Culturally Distinct Child and Family	1
HDFL-340	Human Development: Late Adulthood*	3
HDFL-345	Family Health Care/Dilemmas and Decisions for Families*	2
HDFL-360	The Workplace and the Family*	2
HDFL-365	Family Resource Management*	2
HDFL-420	Family Research and Methodology*	3
HDFL-450	Family Policy*	3
HDFL-456	Abuse and the Family	3
HDFL-490	Professional Issues in Human Development and Family Studies *	2
HDFL-491	Practicum in Human Development and Family Studies*	4

** Required to become a Certified Family Life Educator by the National Council on Family Relations. Additional required courses: HDFL-313 Parent Education, FCSE-451 Family Life Education Programs.*

Concentration, Certification or Minor

22 credits required

Students complete the degree with selectives chosen in consultation with the program director, or any minor, pages 80 to 86, in consultation with the adviser.

Electives

5 credits required

Information Technology Management

Introduction

The Information Technology Management program prepares graduates for leadership positions in a dynamic environment. Professionals in the field deal with a broad range of business and technical issues. The program emphasizes managerial, technical and science skill courses. The field of information technology requires application of scientific, business and technical principles together with appropriate knowledge, and supports research, marketing, design, and systems that integrate information technology.

Students apply theory to solve real-world problems in an intensive hands-on laboratory environment that is the heart of UW-Stout's teaching strategy. Emphasis is on areas of information technologies that include voice, data, and video systems.

Technical courses foster the development of understanding in systems creation, design, development, implementation, operations and management. Students take courses that provide the basic knowledge about the technical elements required in building any voice, data, and video network systems. Students completing this program have the opportunity to earn one or more of the following highly respected professional certifications: Cisco CCNA, CCDA, CCNP, CCDP, and Microsoft MCSE.

Professional studies provide a solid managerial background while humanities and social science courses introduce students to methods of communications, motivation, and supervising people. Math and physical science courses help in solving technical and economic problems found in business.

Several work experience programs have been developed. Internships, field experience, independent study and cooperative education opportunities are available. You can work for a summer or semester earning college credit as well as a salary, while gaining a personal perspective of the business and technical world of information technologies.

Information Technology Management program graduates advance into administrative and executive areas within an organization. The professional certifications earned give students a substantial competitive advantage when entering the job market.

General Requirements

Bachelor of Science Degree

Total for graduation	120
General Education	41
Major Studies	79

Program Requirements

General Education

41 credits required

A. Communication Skills

8 Credits

ENGL-101	Freshman English — Composition or	
ENGL-111	Freshman English — Honors I	3
ENGL-102	Freshman English — Reading and Related Writing or	
ENGL-112	Freshman English — Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning

7 Credits

CS-144	Computer Science I	3
MATH-153	Calculus I	4

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

ECON-210	Principles of Economics I	3
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Courses must be from two additional areas including anthropology, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

4 Credits

PHYS-211	Introduction to Physics	3
PHYS-212	Introduction to Physics – Lab	1

G. Technology

2 Credits

Major Studies

79 credits required

Management

23 credits

BUACT-206	Introduction to Financial Accounting	3
BUMGT-304	Principles of Management	3
INMGT-120	Quality Concepts	3
INMGT-365	Project Management	2
INMGT-400	Organizational Leadership	3
TCS-401	Telecommunication Policy and Regulations	3
TCS-481	Telecommunication Systems Administration	3
TRHRD-360	Training Systems in Business and Industry	3

Technical

44 credits

CS-145	Computer Science II	3
CS-244	Data Structures	4
ELEC-204	Electronic Fundamentals	3
ELEC-271	Digital Logic and Switching	3
TCS-131	NOS Fundamentals	2
TCS-145	Networking Fundamentals	4
TCS-306	Introduction to Telephony	2
TCS-382	Network Systems Design	3
TCS-383	Introduction to Network Security	3
TCS-441	Scalable Internetworks	3
TCS-442	Remote Access Networks	3
TCS-443	Multi-Layer Switched Networks	3
TCS-444	Internetwork Troubleshooting	3
TCS-491	Wireless Systems	3

Electives

12 credits

Electives may be chosen from any courses with the following prefixes: BUACT, BUINB, BULGL, BUMGT, BUMIS, BUMKG, BURTL, CS, ELEC, INMGT, SRVM, TCS, TRHRD, plus ENGL-415, RC-381, STAT-320. TCS-499 Cooperative Education Experience is recommended. Suggested minors (may require additional credits beyond program minimum) include Business Administration or Computer Science.

Manufacturing Engineering

Introduction

The Bachelor of Science degree program in Manufacturing Engineering is designed to prepare engineers as experts in the production process, from design through manufacturing. As a team member, the manufacturing engineer works with other professionals in the design of products, particularly from the point of view of the efficiency of production. They are responsible for selecting the right materials for various product applications and for determining methods used in processing raw materials into finished products. Using computers, they design and control automated systems capable of rapidly making the product. Manufacturing Engineers are part of the company's management team and make important decisions regarding production planning, inventory, scheduling and quality.

To be admitted to the B.S. in Manufacturing Engineering program, students must have graduated in the top 40 percent of their class or, for high schools that do not rank, have a cumulative grade point average of at least 3.0 on a 4.0 scale or receive a composite score of 22 or greater on the ACT or equivalent score or greater on the SAT (*ACT is preferred*). In addition, an ACT math score of at least 22 or equivalent score on the SAT is required.

Through intensive hands-on laboratory experience, which is the heart of UW-Stout's teaching strategy, the program emphasizes application of theory to solution of real world problems. Manufacturing Engineering students learn modern production tools, such as computer-aided design and manufacturing (CAD/CAM), robotics, programmable logic controllers, computer simulation of production environment and modern manufacturing management techniques. Students have opportunities to function as members of production teams as they practice concurrent product design, material selection, appropriate manufacturing method selection, and automated production systems design.

The UW-Stout Manufacturing Engineering degree is accredited by the Engineering Accreditation Commission of ABET. It is the only nationally accredited manufacturing engineering degree in Wisconsin. There are many opportunities for cooperative learning and internship experiences with regional companies, providing industrial experience and that extra "edge" when applying for jobs upon graduation.

General Requirements

Bachelor of Science Degree

Total for graduation	132
General Education	43
Major Studies	89

Program Requirements

General Education

43 credits required

A. Communication Skills	8 credits
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ENGL-101	Freshman English – Composition <i>or</i>	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning	8 credits
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MATH-153	Calculus I	4
MATH-154	Calculus II	4

C. Health and Physical Education	2 credits
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Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts	9 credits
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Courses must be from two areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy. A single depth requirement must be met in either Humanities and the Arts or Social and Behavioral Sciences.

E. Social and Behavioral Sciences	9 credits
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Courses must be from two areas including anthropology, economics, geography, political science, psychology and sociology. A single depth requirement must be met in either Humanities and the Arts or Social and Behavioral Sciences.

F. Natural Sciences (with Lab)	5 credits
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CHEM-135	College Chemistry I	5
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G. Technology	2 credits
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Major Studies

89 credits required

Mathematics and Basic Sciences 20 credits

CHEM-341	Chemistry of Materials	4
STAT-330	Probability and Statistics for Engineering and the Sciences ..	3
MATH-250	Differential Equations With Linear Algebra	3
PHYS-281	University Physics I.....	5
PHYS-282	University Physics II	5

Engineering Core 15 credits

MECH-293	Engineering Mechanics	3
MECH-294	Mechanics of Materials	3
MFGT-150	Introduction to Engineering Materials.....	3
MFGE-275	Applied Thermodynamics and Heat Transfer	2
ELEC-290	Circuits and Devices.....	4

Materials and Manufacturing Processes 15 credits

MFGT-251	Polymer and Composite Processes	3
MFGT-252	Material Removal and Forming Processes	3
MFGT-253	Joining and Casting Processes	3
MFGE-351	Manufacturing Process Engineering I	3
MFGE-352	Manufacturing Process Engineering II.....	3

Process, Assembly and Product Engineering 12 credits

MFGE-441	Design of Fixtures, Jigs and Tooling	3
MFGE-405	Capstone I: Product Design.....	3
CADD-112	Principles of Engineering Drawing I	3
CADD-436	Computer Assisted Design Problems	3

Manufacturing Integration Methods and System Design 17 credits

MFGE-325	Computer Aided Manufacturing	3
MFGE-410	Capstone II: Manufacturing Systems Design.....	3
MFGE-415	Machine Vision and Robotics	2
MFGE-440	Design and Simulation of Manufacturing Systems.....	3
MFGE-363	Controls and Instrumentation	4
MECH-391	Fluid Mechanics	2

Manufacturing Competitiveness 9 credits

INMGT-335	Lean Manufacturing Systems	4
INMGT-422	Quality Engineering	3
INMGT-300	Engineering Economy	2

Professional Selective 1 credit

Select additional credit from list of approved professional courses.

Marketing and Business Education

Urs Haltinner, Program Director, 132 Communication Technologies Building, 715/232-1493

Introduction

The field of marketing and business requires training for owners, managers and employees engaged primarily in marketing goods and services. Marketing and Business Education at UW-Stout provides the teachers to train the work force.

The disciplines of marketing and business contribute significantly to the intellectual and career development in an age of innovation and invention. Teachers graduating with this major are prepared to teach marketing and business education at the secondary and/or post-secondary levels. Many graduates enter positions in business and industry.

Students are certified for Marketing Education with 124 degree credits. Certification in both Marketing and Business Education is earned with 19 credits of additional courses and student teaching experience.

General Requirements Bachelor of Science Degree

Total for graduation	124 - 143 credits
General Education	42 credits
Major Studies	82 - 101 credits

Although it is not a requirement for graduation, students should be aware of the fact that they must acquire a minimum of 4,000 hours of occupational experience before they can be certified to teach marketing education in Wisconsin and Minnesota.

Students must fulfill the English adequacy and speech proficiency requirements. Students enter the program with "pre-education" status. Earning a 2.75 or better grade point average and passing the Preprofessional Skills Test will formally move them into the Marketing Education program.

Participation in Collegiate DECA is required.

Note: Students are required to maintain a 2.75 grade point average throughout the marketing education program.

Program Requirements

General Education

42 credits required

A. Communication Skills* **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2
* Grade point of 2.0 (C) or better is required in each course prior to student teaching.		

B. Analytic Reasoning **6 credits**

MATH-XXX	Any Mathematics	4
Remaining courses must be from areas including math, logic, statistics and computer science.		

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

LIT-XXX	Any Literature	3
HIST-210	Modern World	3

Remaining courses must be from areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences ** **9 credits**

ECON-210	Principles of Economics I	3
POLS-210	Government	3
PSYC-110	General Psychology	3

F. Natural Sciences (with Lab) **4 credits**

Choose a biology course, and either a chemistry or physics course.

G. Technology **2 credits**

TCS-103	Communications and Information Technology (recommended)	3
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H. General Education Electives ** **2 credits**

Courses must come from categories A, B, D, E and F.

** If students take ECON-215 Principles of Economics II as an elective, they meet the requirements for a Business Administration minor. ECON-215 is required for the Business Education certification.

Major Studies

82 - 101 credits required

BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Introduction – Corporate and Managerial Accounting	3
BUINB-260	International Business <i>or</i>	
BUINB-485	International Marketing	3
BULGL-318	Business Law I	3
BUMGT-304	Principles of Management	3
BUMIS-333	Management Information Systems	3
BUMKT-330	Principles of Marketing	3
BUMKT-334	Salesmanship and Sales Management	3
BUMKT-370	Principles of Advertising.....	3
BUMKG-479	Marketing Research	3
CTE-302	Principles of Vocational, Technical and Adult Education.....	2
CTE-360	Cooperative Occupational Education Programs	2
ECON-215	Economics II **	3
EDUC-303	Educational Psychology	3
EDUC-326	Foundations of Education	2
EDUC-336	Multiculturalism: Issues and Perspectives	2
EDUC-376	Field Experience — Cross Cultural Experience	1
EDUC-382	Secondary Reading and Language Development	2
INMGT-400	Organizational Leadership.....	3
MEBE-101	Introduction to Marketing Education	3
MEBE-202	Supervision of Business and Marketing Education Student Organizations	3
MEBE-301	Marketing Education Methods	3-4
MEBE-311	Marketing Education Project Method	2
MEBE-312	Pre-Clinical Experience: Marketing Education	1
MEBE-401	Marketing Education Curriculum	2-3
MEBE-409	Marketing Education _ Student Teaching *	8-16
MEBE-355	Marketing and Business Education Seminar	3
MEBE-411	Business Education Methods and Curriculum	5
MEBE-419	Business Education Student Teaching *	8
MEDIA-365	Integrated Software for Instruction	3
MEDIA-366	Integrated Media Applications for Instruction	3
SPED-430	Inclusion of Students With Exceptional Needs	3
TCS-305	Office Automation Technology	3

** 16 credits of MEBE-409 are required if student opts for Marketing Education certification only. For Marketing and Business Education certification, students take 8 credits of both Business Education and Marketing Education student teaching.*

*** ECON-215 Economics II results in a Business Education minor.*

Packaging

Introduction

A packaging career today requires a thorough knowledge of materials, methods, design concepts, and machinery to develop and produce the packages that protect and preserve a product, help market the product and instruct the consumer in its proper use. UW-Stout's Bachelor of Science degree program in Packaging prepares students for technical or management responsibilities in the packaging industry to meet these needs. The program places strong emphasis on the application of theory to strengthen problem solving abilities and challenges students by providing opportunities to solve "real" packaging industry problems in classroom/laboratory settings.

The trend in the packaging industry is to hire employees who can function in more than one area at career entry. UW-Stout's Packaging program recognizes this trend by offering the student several "emphasis" options which include course and laboratory work beyond the technical core of the program. This distinguishing feature allows students to draw on other well-recognized programs offered at UW-Stout: graphic arts, graphic design, food science, business and sales, quality and manufacturing, and packaging research and development.

With the quantity and variety of products produced in the world, it is easy to understand that packaging is a dynamic multibillion dollar industry in need of well educated men and women. Graduates of the program are positioned advantageously for entry into the expanding and evolving packaging industry, as well as for further studies in the field of packaging.

General Requirements

Bachelor of Science Degree

Total for graduation	124
General Education	56
Major Studies	55-56
Emphasis	12-13

Program Requirements

General Education

56 credits required

A. Communication Skills 10 credits

ENGL-101	Freshman English-Composition or	
ENGL-111	Freshman English-Honors I	3
ENGL-102	Freshman English-Reading and Related Writing or	
ENGL-112	Freshman English-Honors II	3
SPCOM-100	Fundamentals of Speech	2
From the approved list of General Education courses, select:		
SPCOM-XXX	Any advanced speech or	
XXX-XXX	Any foreign language	2

B. Analytic Reasoning 6 credits

STAT-130	Elementary Statistics	2
MATH-153	Calculus I	4

C. Health and Physical Education 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 credits

ART-101	Two-Dimensional Design	3
Remaining courses must be from at least two other areas including art history, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.		

E. Social and Behavioral Sciences 9 credits

ECON-201	General Economics or	
ECON-210	Principles of Economics I	3
Remaining courses must be from at least two other areas including anthropology, geography, political science, psychology and sociology.		

F. Natural Sciences (with Lab) 18 credits

CHEM-135	College Chemistry I	5
Select one Physics sequence:		
PHYS-241	College Physics I and	
PHYS-242	College Physics II	10
PHYS-281	University Physics I and	
PHYS-282	University Physics II	10
Select 3 credits from:		
BIO-XXX	Any approved General Education Biology elective	3
(BIO-111 Science, Society, and the Environment is recommended)		

G. Technology 2 credits

Major Studies

39-41 credits required

CADD-112	Principles of Engineering Drawing	3
CADD-436	Computer Assisted Design Problems	3
RD-205	Design for Industry <i>or</i>	
GCM-141	Graphic Communications and Electronic Publishing <i>or</i>	
ELEC -204	Electricity/Electronics Fundamentals	3
MFGT-340	Plastics Processing <i>or</i>	
MFGT-251	Polymer and Composite Processes	3
PKG-150	Packaging Fundamentals	3
PKG-210	Packaging Materials: Paper, Wood, Adhesives, and Metal.....	3
PKG-220	Packaging Materials: Polymers and Glass	3
PKG-250	Consumer Packaging Systems	3
PKG-260	Distribution Packaging	3
PKG-335	Packaging Machinery	3
PKG-350	Packaging Design and Evaluation	3
PKG-490	Packaging Development.....	3
PKG-495	Packaging Seminar.....	2
ENGL-415	Technical Writing	3
PKG-X49	Cooperative Education Experience	1-3

Professional/Management

14 credits required

INMG-T120	Quality Concepts	3
INMG-T200	Production/Operations Management	3
INMG-T300	Engineering Economy.....	2
INMG-T365	Project Management.....	3
INMG-T400	Organizational Leadership.....	3

Emphasis

12-13 credits required

Select 12-13 credits from an emphasis area to meet your career objectives.

Packaging Graphic Design **12 credits**

ART-100	Drawing I	3
ART-103	3-D Design.....	3
ARTH-222	Introduction to Art <i>or</i>	
DES-205	Presentation Techniques.....	3
DES-200	Design Theory and Methods.....	3
DES-210	Letter Form Design.....	3
DES-310	Graphic Design I.....	3
DES-360	Graphic Design II.....	3
DES-410	Product and Packaging Graphics.....	3

Manufacturing/Quality **12 credits**

INMG-T220	Service Quality Assurance.....	3
INMG-T320	Quality Tools	3
INMG-T325	Quality Management	3

Select 6 credits from the following:

BUACT-410	Manufacturing Cost Analysis	3
INMG-T305	Product and Inventory Control	3
INMG-T330	Material Handling.....	3
INMG-T340	Time and Motion Study.....	3
INMG-T350	Facilities Planning	3
INMG-T410	Six Sigma Quality Improvement Methods.....	3
MFGT-303	Computer Aided Manufacturing.....	3
MFGT-405	Industrial Robotics	3
RC-381	Occupational Safety/Loss Control	3

Packaging Design Research and Development **12 credits**

MECH-290	Mechanics of Solids I	3
MECH-291	Mechanics of Solids II	3
MECH-393	Mechanics of Machinery II	3
PHYS-321	Statics and Strength.....	3-4

Select 3-5 credits from the following:

CHEM-341	Chemistry of Materials	4
MFGT-204	Polymer Processes	3
MFGT-405	Industrial Robotics	3
RD-320	Prototype Development and Model Making	3
RD-420	Research and Development <i>and</i>	
RD-421	Research and Development Laboratory.....	3

Package Printing **12 credits**

GCM-151	Prepress Tools and Processes	3
GCM-251	Digital Prepress File Creation	2
GCM-266	Digital and Offset Press Systems	4
GCM-270	Postpress Operations/Planning.....	3
GCM-363	Package Printing	4
GCM-445	Publication Production	3

Business/Sales **12 credits**

BUACT-210	Financial-Managerial Accounting <i>or</i>	
BUACT-206	Introduction to Financial Accounting.....	2-3
BUMGT-304	Principles of Management.....	3
BUMIS-333	Management Information Systems-Decision Support Systems	3
BUMKG-330	Principles of Marketing	3
BUMKG-334	Salesmanship and Sales Management	3

Foods/Packaging **13 credits**

FN-240	Food Science	4
FN-325	Food Packaging.....	3
FN-440	Food Packaging Lab.....	3

Select 3 credits from the following:

BIO-406	Food Microbiology	3
FN-410	Food Policy Regulation and Law.....	3
FN-442	Basic Sensory Analysis.....	3
FN-450	Food Engineering.....	3
CHEM-315	Food Chemistry.....	3

Medical/Healthcare

In development

Psychology

Richard Tafalla, Program Director, 326 Education and Human Services Building, 715/232-1662

Introduction

The discipline of Psychology is the systematic study of thought, emotions and behavior of human beings. The B.A. in Psychology at UW-Stout has, as an overriding goal, a focus on application of theories, methods and concepts for the improved condition of people in a variety of environments. The program has been designed to adhere to the American Psychological Association standards for undergraduate education that emphasizes the scientific aspects of the profession as well as the liberal arts goals of Psychology. Students acquire competencies that lead to employment wherever psychology is applied in education institutions, public and private agencies, business and industry. In addition to the major study, all students are expected to develop literacy in the arts, humanities, natural sciences and social sciences. Each student is also expected to develop and demonstrate effective communication and quantitative skills as a part of the program's requirements.

Students are guided and assisted in developing a personal program plan centered on their individual needs and career goals. With careful planning, students may include self-planned concentrations with a more focused emphasis in one of a variety of unique career paths in psychology. Students entering the program should realize that they may need to obtain graduate level education or other advanced training for certain careers as practicing professional psychologists.

General Requirements

Bachelor of Arts Degree

Total for graduation	120 credits
General Education	42 credits
Major Studies	40 credits
Minor or second area of depth	13-22 credits
Additional Liberal Studies Requirement	14 credits
Electives	6 credits

Students must attain a minimum grade point average of 2.25 in required courses for the major and a minimum grade point average of 2.5 in other courses for the major.

Program Requirements

General Education

42 credits required

A. Communication Skills 8 credits

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning 6 credits

STAT-130 Elementary Statistics (or more advanced)	2
STAT-120 Introductory College Mathematics I (or more advanced)	4

C. Health and Physical Education 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) 4 credits

G. Technology 2 credits

H. General Education Electives 2 Credits

Courses must come from categories A, B, D, E and F.

Major Studies

42 credits required

Required Courses 20 credits

PSYC-110 General Psychology	3
PSYC-190 Psychological Research Methods	4
PSYC-210 Introduction to Applied Psychology	3
PSYC-390 Experimental Psychology	4
PSYC-320 Psychology: Its History and Systems	3
PSYC-xxx Interpreting Psychological Research	3

Psychology Domains 11-12 credits

Select at least one course from each domain:

Learning and Cognition

PSYC-451 Children's Learning	3
PSYC-330 Psychology of Learning	3
PSYC-442 Cognitive Processes	3

Individual Differences, Personality, Social Processes

PSYC-xxx Personality	3
PSYC-270 Social Cognition and Behavior	3
PSYC-340 Psychology of Individual & Group Differences	3
PSYC-490 Psychological Measurement	3

Biological Bases

PSYC-432 Perception	3
BIO-361 Psychobiology	2
PSYC-335 Motivation and Emotion	3
PSYC-391 Applied Psychophysiological Methods	3

Developmental

PSYC-251 Child Psychology	3
PSYC-351 Children's Social Reasoning	3
PSYC-352 Adolescent Psychology	3
PSYC-372 Psychology of Sex and Gender	3

Applied 3-6 credits

Consult with advisor for current list of selectives.

Experiential 2 credits

PSYC-X49 Cooperative Education Experience in Psychology	1-8
PSYC-X98 Psychology Field Experience	2
PSYC-480 Individual Research Project I and	
PSYC-481 Individual Research Project II	1
PSYC-X99 Independent Study**	2-3

**Must involve research and be approved by the advisor as meeting the requirement of this category.

Psychology Selectives

Selectives sufficient to meet minimum of credits for the major.

PSYC-100 Psychology Semester I – Foundations	1
XXX-XXX Selectives	

Consult with advisor for current listing of selectives.

Minor or Second Area of Depth

13-22 credits required

Students are expected to take a minor, specialization or self-planned concentration. The self-planned concentration (22-credit minimum) allows students to select course work and learning experiences that relate to a particular area of interest, and must be planned with an adviser and approved by a committee of at least three persons designated by the Psychology Program Committee.

Additional Liberal Studies Requirements

8 credits required

Select 5 credits from the following:

BIO-XXX Any Biology	1-4
CHEM-XXX Any Chemistry	1-5
PHYS-XXX Any Physics	1-5

Select 3 credits from the following:

ENGL-XXX Any Writing	1-3
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Electives

6 credits required

Retail Merchandising and Management

Introduction

The Retail Merchandising and Management program is designed to prepare graduates for leadership roles in corporate, regional or store-level management positions in the retail industry and support areas. Students explore the functional areas of retailing, including marketing, promotions, human resources, accounting, buying, merchandising, sourcing and logistics. They also sharpen their skills in analytical reasoning, critical thinking, problem-solving, oral and written communications. A minor in Business Administration can also be earned within the program requirements. A highlight of the program is the senior-level retail practicum or co-op/internship in which students work in management-level positions in retailing. Numerous opportunities are available for travel and study abroad experiences to enhance the educational programming.

Graduates of this program are prepared for entry-level managerial positions in merchandise buying, planning and management; store management and operations; training; human resources and e-commerce. Although specific job titles vary by organization, graduates of the program have been recruited to fill such positions as business analyst, executive team lead, sourcing specialist, department manager, assistant store manager, manager trainee, assistant buyer, pricing analyst, unit development leader, retail operations manager and visual merchandising/space management planner.

General Requirements

Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	39-40 credits
Concentration	40-41 credits

Program Requirements

General Education

40 credits required

Communication Skills

8 Credits

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

Analytic Reasoning

6 Credits

MATH-XXX Any approved mathematics	4
<i>Buying and Product Management concentration students should take:</i>	
MATH-123 Finite Mathematics with Applications	4
<i>Store Operations Management concentration students should take one of the following:</i>	
MATH-120 Introduction to College Mathematics I	4
MATH-121 Introduction to College Mathematics II	4
MATH-123 Finite Mathematics with Applications	4

Remaining courses must be from areas of math, logic, statistics and computer science.

Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

Social and Behavioral Sciences

9 Credits

ECON-210 Principles of Economics I

3

Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.

Natural Sciences (with Lab)

4 Credits

Technology

2 Credits

Professional Studies

39 - 40 credits required

Students must complete 500 hours of approved and verified retail work experience (with a minimum of 250 hours with any one company) before completing the senior year.

BURL-105 Introduction to Retail Merchandising and Management	1
BUACT-206 Introduction to Financial Accounting	3
BUMGT-304 Principles of Management	3
BUMKG-330 Principles of Marketing	3
BUMKG-385 Target Marketing	3
BUMKG-438 Logistics	3
BURL-127 Basic Merchandising	3
BURL-329 Retail Promotions	3
BURL-390 Merchandise Planning and Control	4
BURL-425 Current Retail Strategies	2
ECON-215 Principles of Economics II	3
PSYC-370 Interpersonal Effectiveness Training	2

Select one of the following (3 credits):

ENGL-320 Business Writing	3
ENGL-415 Technical Writing	3

Senior Capstone Selective (3-4 credits)

Select both Practicum courses or the Co-op Experience.

BURL-4XX Retail Practicum I and	
BURL-4XX Retail Practicum II	4
BURL-449 Cooperative Education Experience	3-4

Concentrations

40-41 credits required

Buying and Product Management

40-41 credits

APRL-140	Textiles.....	3
APRL-202	Quality Analysis of Sewn Products	3
BUACT-207	Managerial Accounting.....	3
BUMIS-333	Management Information Systems	3
BUINB-260	Introduction to International Business.....	3
BURTL-212	Trend Forecasting.....	3
BURTL-395	Assortment Planning	3
BURTL-490	Advanced Merchandise Plan Control	3

Select one of the following (3 credits):

BURTL-327	Store Management.....	3
INMG-T400	Organizational Leadership.....	3
PSYC-382	Human Resource Management	3

Select one of the following (3 credits):

ENGL-247	Critical Writing.....	3
LOG-250	Critical Thinking	3
LOG-301	Introduction to Logical Thinking	3

Select one of the following (3 credits):

BURTL-319	International Economic Trends in Textiles and Clothing.....	3
BUMKG-337	Purchasing and Supply Chain Management	3
INMG-T305	Resource Planning and Materials Management	3

Optional Experience/Opportunities (by application only)

APRL-449	Retail Cooperative Education Experience.....	3-6
BURTL-477	Study Abroad – American Fashion College in London.....	16
BURTL-419	National Study Tour to Fashion Industries.....	1

Electives (7-8 credits)

Fashion Marketing

40-41 credits

APRL-140	Textiles.....	3
APRL-202	Quality Analysis of Sewn Products	3
BURTL-212	Trend Tracking and Forecasting	3
BURTL-327	Store Management.....	3
BURTL-229	Visual Merchandising	3
BURTL-417	Social and Psychological Aspects of Clothing.....	3
PSYC-382	Human Resource Management	3

Select one of the following (3 credits):

BUINB-260	Introduction to International Business.....	3
BURTL-319	International Economic Trends in Textiles and Clothing.....	3
BUINB-367	International Management	3
BUINB-485	International Marketing.....	3

Select one of the following (2-4 credits):

SPAN-121	Practical Spanish I	2
SPAN-122	Practical Spanish II.....	2
SPAN-103	Elementary Spanish I	4
SPAN-104	Elementary Spanish II.....	4

Select one of the following (2-3 credits):

SPCOM-312	Intercultural Communications.....	2
PSYC-340	Psychology of Individual and Group Differences	3
INMG-T415	Women and Minorities in Management	2
PSYC-372	Psychology of Sex and Gender.....	3
SOC-275	Sociology of Gender Roles	3
SOC-375	Sociology of Minority Groups	3

Select from the following (2-3 credits):

TRHRD-360	Training Systems in Business and Industry	3
INMG-T400	Organizational Leadership.....	3
INMG-T430	Employee Involvement Work Teams	2
INMG-T416	People Process Culture.....	3
MSL-101	Foundations of Officership	1
MSL-102	Basic Leadership	1

Optional Experience/Opportunities (by application only)

APRL-449	Retail Cooperative Education Experience.....	3-6
BURTL-477	Study Abroad – American Fashion College in London.....	16
BURTL-419	National Study Tour to Fashion Industries.....	1

Electives (6-11 credits)

BUACT-207 Introduction to Corporate and Managerial Accounting is suggested as an elective to complete requirements for a minor in Business Administration.

Human Resource Management	40-41 credits
BUINB-367 International Management	3
BURTL-327 Store Management.....	3
INMGMT-400 Organizational Leadership.....	3
PSYC-379 Public Relations	2
PSYC-382 Human Resource Management	3
PSYC-403 Employee Reward Systems	3
PSYC-485 Recruitment and Selection of Human Resources	3
SPCOM-414 Interviewing	1
TRHRD-360 Training Systems in Business and Industry	3
<i>Select one of the following (2-4 credits):</i>	
SPAN-121 Practical Spanish I	2
SPAN-122 Practical Spanish II.....	2
SPAN-103 Elementary Spanish I	4
SPAN-104 Elementary Spanish II.....	4
<i>Select one of the following (2-3 credits):</i>	
SPCOM-312 Intercultural Communications	2
PSYC-340 Psychology of Individual and Group Differences	3
INMGMT-415 Women and Minorities in Management	2
PSYC-372 Psychology of Sex and Gender.....	3
SOC-275 Sociology of Gender Roles	3
SOC-375 Sociology of Minority Groups	3
<i>Select from the following (2-3 credits):</i>	
INMGMT-430 Employee Involvement Work Teams	2
INMGMT-416 People Process Culture.....	3
MSL-101 Foundations of Officership	1
MSL-102 Basic Leadership	1
Optional Experience/Opportunities (by application only)	
APRL-449 Retail Cooperative Education Experience.....	3-6
BURTL-477 Study Abroad - American Fashion College in London.....	16
BURTL-419 National Study Tour to Fashion Industries.....	1

Electives (8-11 credits)

BUACT-207 Introduction to Corporate and Managerial Accounting is suggested as an elective to complete the requirements for a minor in Business Administration.

Store Operations Management	40-41 credits
BUACT-207 Managerial Accounting.....	3
BURTL-229 Visual Merchandising	3
BUMIS-333 Management Information Systems	3
PSYC-382 Human Resource Management	3
BURTL-327 Store Management.....	3
SPCOM-414 Interviewing	1
INMGMT-400 Organizational Leadership.....	3
<i>Select one of the following (3 credits):</i>	
BUINB-260 Introduction to International Business.....	3
BUINB-367 International Management	3
BUING-485 International Marketing	3
<i>Select one of the following (2-4 credits):</i>	
SPAN-121 Practical Spanish I	2
SPAN-122 Practical Spanish II.....	2
SPAN-103 Elementary Spanish I	4
SPAN-104 Elementary Spanish II.....	4
<i>Select one of the following (2-3 credits):</i>	
SPCOM-312 Intercultural Communications	2
PSYC-340 Psychology of Individual and Group Differences	3
INMGMT-415 Women and Minorities in Management	2
PSYC-372 Psychology of Sex and Gender.....	3
SOC-275 Sociology of Gender Roles	3
SOC-375 Sociology of Minority Groups	3
<i>Select from the following (2-3 credits):</i>	
TRHRD-360 Training Systems in Business and Industry	3
INMGMT-430 Employee Involvement Work Teams	2
INMGMT-416 People Process Culture.....	3
MSL-101 Foundations of Officership	1
MSL-102 Basic Leadership	1
<i>Select one of the following (3 credits):</i>	
LOG-250 Critical Thinking	3
ENGL-247 Critical Writing.....	3
LOG-301 Introduction to Logical Thinking	3
Optional Experience/Opportunities (by application only)	
APRL-449 Retail Cooperative Education Experience.....	3-6
BURTL-477 Study Abroad – American Fashion College in London.....	16
BURTL-419 National Study Tour to Fashion Industries.....	1
Electives (7-10 credits)	

Service Management

Edward Harris, Program Director, 404 Home Economics Building, 715/232-2532

Introduction

The Service Management program at UW-Stout is the first of its kind in the nation. The major is unique because of its blend of service-specific core courses, for-profit and non-profit concentrations, and the choice of courses from areas of human development and relationships, business and finance, and communication and information technology. The professional core is based upon a strong foundation of arts and sciences.

The core service curriculum is focused upon three learning levels:

1. introductory level courses addressing the role of service in the global economy;
2. functional service area courses; and
3. upper level total service system integration courses.

An applied work experience via a field experience or cooperative education internship is required of each student. Area position titles include customer service operation/management, electronic information center management, human resource management, services quality management, service engineering, and customer relationship management.

General Requirements

Bachelor of Science Degree

Total for Graduation	124 credits
General Education	42 credits
Professional Components (Major Studies and Concentration)	82 credits

Program Requirements

General Education

42 credits required

A. Communication Skills **8 credits**

ENGL-101 Freshman English – Composition <i>or</i>	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning **6 credits**

STAT-130 Elementary Statistics <i>or</i>	
STAT-320 Statistical Methods	2-3
MATH-123 Finite Mathematics (<i>or more advanced</i>)	4

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

ECON-210 Principles of Economics I <i>or</i>	
ECON-201 General Economics	3
<i>Remaining courses must be from two or more areas including anthropology, geography, political science and sociology.</i>	

F. Natural Science (with Lab) **4 credits**

G. Technology **2 credits**

H. General Education Electives **2 credits**

Courses must be from categories A, B, D, E and F.

Major Studies

15-22 credits required

SRVM-111 Introduction to Global Service Management	2
SRVM-210 Services Operations Management	3
SRVM-354 Services Marketing Management	3
SRVM-410 Electronic Services Management	3
SRVM-367 International Service Management	3
SRVM-XXX Field Experience, Cooperative Education or Internship	1-8

Concentrations

40-43 credits required

For-Profit Service Sector Organization **40-43 credits**

Business and Financial Management

Students must select at least one course from three of the subject areas.

RC-381 Occupational Safety/Loss Control	3
INMGT-120 Quality Concepts	3
INMGT-220 Quality Systems-Service Industry	3
INMGT-325 Quality Management	3
INMGT-400 Organizational Leadership	3
BUACT-206 Introduction to Financial Accounting	3
BUACT-207 Introduction to Corporate and Managerial Accounting	3
BUMGT-304 Principles of Management	3
BULGL-318 Business Law I	3
BUMKG-330 Principles of Marketing	3
BUMIS-333 MIS Decision Support Systems	3
BUACT-335 Accounting for Management Decisions	3
TRHRD-360 Training Systems in Business and Industry	3
BURTL-431 Service Management Strategies	3
SRVM-XXX Business Geographics	3
SRVM-XXX Service Response Logistics	3
SRVM-XXX Special Problems in Service Management	2
ECON-215 Principles of Economics II	3
STAT-320 Statistical Methods	3
PSYC-382 Human Resource Management	3

Human Development and Relationships

Select 10-11 credits

HDFL-115 Individual and Family Relations	3
HDFL-255 Lifespan Human Development	3
HDFL-270 Seminar on Self-Growth	2
HDFL-360 The Workplace and the Family	2
HDFL-XXX Gender Relationships	3
HDFL-XXX Relationship Theory System Dynamics	3
INMGT-400 Organizational Leadership	3
PHIL-375 Personal and Professional Ethics	3
PSYC-190 Psychological Research Methods	4
PSYC-379 Public Relations	2
PSYC-382 Human Resource Management	3
PSYC-403 Management of Employee Reward System	3
PSYC-490 Psychological Measurement	3
SRVM-260 Service Learning	3

Communication and Information Technology*Select 10-11 credits*

MEDIC-360	Introduction to Media in Education and Training	2
MEDIA-440	Telecommunication Systems and Teleconferencing	2
TCS-281	Data Communications	3
TCS-283	Protocols and Interface Lab	3
TCS-305	Office Automation Technology	3
TCS-306	Introduction to Telephony	2
ENGL-207	Writing for the Media	3
ENGL-320	Business Writing	3
ENGL-415	Technical Writing	3
ENGL-346	Research Reporting	3
SPCOM-200	Persuasive Speaking	2
SPCOM-236	Listening	2
SPCOM-312	Intercultural Communication	2
SPCOM-308	Speech Skills for Business and Industry	2
XXX-XXX	Any Foreign Language	2-4

General Electives (2 credits)**Non-Profit Service Sector Organizations****40-43 credits****Human Development and Relationships***Students must select at least one course from three of the subject areas.*

HDFL-115	Individual and Family Relations	3
HDFL-255	Lifespan Human Development	3
HDFL-270	Seminar in Self-Growth	2
HDFL-310	Family Stress, Coping, and Adaptation	1
HDFL-360	Workplace and the Family	2
HDFL-XXX	Gender Relationships	2
HDFL-XXX	Relationship Theory System Dynamics	2
INMGT-400	Organizational Leadership	3
SRVM-260	Service Learning	3
SRVM-XXX	Special Problems in Service Management	2
PHIL-235	General Ethics	3
SOCWK-205	Introduction to Social Work	3
SOCWK-420	Child and Family Agencies	2
EDUC-307	Applied Human Relations	2
EDUC-336	Multiculturalism: Issues/Perspectives	3
REHAB-102	Community Resources	2
REHAB-300	Grantsmanship for Helping Professions	3
REHAB-458	Rehabilitation Support System Networking	1
REHAB-402	Rehabilitation Program Operations	3
PSYC-190	Psychological Research Methods	4
PSYC-210	Introduction to Applied Psychology	3
PSYC-281	Environmental Psychology	3
PSYC-335	Motivation/Emotions	3
PSYC-374	Psychology of Women	2
PSYC-375	The Psychology of Marriage and the Family	2
PSYC-379	Public Relations	2
PSYC-403	Management of Employee Reward Systems	3
PSYC-382	Human Resource Management	3
PSYC-490	Psychological Measurement	3
XXX-XXX	Social Service Sector Management	3

Business and Financial Management*Select 10-11 credits*

TCS-307	Artificial Intelligence Applications in Business	2
RC-271	Safety Principles and Practices	3
TC-381	Occupational Safety/Loss Control	2
INMGT-340	Time and Motion Study	3
BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Corporate and Managerial Accounting	3
BULGL-318	Business Law I	3
BUMKG-330	Principles of Marketing	3
BUMIS-333	MIS Decision Support Systems	3
BUACT-340	Business Finance	3
BUMKG-479	Marketing Research	3
BUINB-XXX	Any international business course	3
TRHRD-360	Training Systems in Business and Industry	3
ECON-215	Principles of Economics II	3
ECON-325	Economics and Business Statistics	3
STAT-320	Statistical Methods	3

Communication and Information Technology*Select 10-11 credits*

MEDIA-360	Introduction to Media in Education and Training	2
MEDIA-440	Telecommunication Systems and Teleconferencing	2
TCS-281	Data Communications	3
TCS-283	Protocols and Interface Lab	3
TCS-305	Office Automation Technology	3
TCS-306	Introduction to Telephony	2
ENGL-207	Writing for the Media	3
ENGL-320	Business Writing	3
ENGL-415	Technical Writing	3
ENGL-346	Research Reporting	3
SPCOM-200	Persuasive Speaking	2
SPCOM-236	Listening	2
SPCOM-312	Intercultural Communication	2
SPCOM-308	Speech Skills for Business and Industry	2
XXX-XXX	Any Foreign Language	2-4

General Electives (2 credits)**Individualized Concentration***Self-designed concentration approved by program director. Courses must be from each area. Course selection requires prior approval by the program director.*

Technical Communication

Bruce Maylath, Program Director, 150C Harvey Hall, 715/232-1358

Introduction

Technical Communication is a rapidly growing profession. Development of new technologies has increased the demand for professionals who can clearly explain policies, products and services to clients and customers. UW-Stout's program integrates communication theory with coursework in a chosen applied field. Examples of applied fields include biomedical engineering, packaging, international studies, quality management, telecommunications, tourism, training and development, art and design, and business and management. Graduates of this program will have the skills to research, visualize, design, develop and oversee publication of both print and electronic documents.

Copy editing and preparation, multimedia or hypertext writing, and critical, technical and freelance writing courses prepare you to write clearly for specific audiences. In addition, courses in an applied field of your choice supply the strong technical background crucial to communicating complex ideas to different audiences. Elective courses give you the chance to explore other areas, such as photography or creative writing. All students will participate in a co-op, internship or practicum during the junior year.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	43 credits
Major Studies	81 credits

Program Requirements

General Education

43 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II or	
ENGL-113	Honors Seminar	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **6 credits**

Courses must be from areas of math, logic, statistics and computer science.

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **4 credits**

G. Technology **2 credits**

H. General Education Electives **3 credits**

Course(s) must come from categories A, B, D, E or F.

Major Studies

81 credits required

Rhetoric and Language Skills **14 Credits**

ENGL-343	Rhetoric of Technology or	
ENGL-371	Advanced Rhetoric	3
ENGL-247	Critical Writing	3
ENGL-340	The Structure of English	3
PHIL-235	General Ethics	3
SPCOM-312	Intercultural Communication	2

Technical Communication Skills **15 Credits**

ART-101	Fundamentals of Design	3
ENGL-121	Introduction to Technical Communication	1
ENGL-207	Writing for the Media	3
ENGL-415	Technical Writing	
ENGL-435	Writing Technical Manuals	3
SPCOM-308	Speech Skills for Business and Industry	2

Production Skills **11 Credits**

GCM-141	Graphic Communication and Electronic Publishing	3
ENGL-385	Document Design	2
ENGL-388	Writing Multimedia or	
ENGL-361	Hypertext Writing	3
ENGL-225	Copyediting and Preparation	3

Project Management and Client Relations Skills **11 Credits**

ENGL-449	Cooperative Educational Experience or	
ENGL-437	Technical Writing Practicum	1-3
ENGL-471	Freelancing/Professional Writing	3
INMGT-365	Project Management	3
PSYC-379	Public Relations	2

Language/Computer Science **8-9 Credits**

Choose one track:

XXX-XXX	Any Foreign Language I	4
XXX-XXX	Any Foreign Language II	4
	or	
CS-142	Computer Programming for Multimedia I	3
CS-143	Computer Programming for Multimedia II	3
LOG-301	Logic	3

Applied Field **17 Credits**

An official minor or an equivalent field of study approved by the program director. Courses selected must total at least 17 credits.

Electives **4-5 credits**

Technology Education

Introduction

Technology Education is a Bachelor of Science degree program consisting of general, professional and technical course work. The program leads to teaching certification in all 50 states. Students who complete the program are eligible for Project Lead the Way certification, a pre-engineering teaching program. Although this program is designed to lead to an education degree, graduates find challenging career opportunities in business and industry as well. Students study fields such as communication, construction, manufacturing and transportation. They work with technologies such as computers, robots and lasers, and with more conventional equipment used in processing materials, energy and information.

General Requirements

Bachelor of Science Degree

Total for graduation	127-128 credits
General Education	43-44 credits
Major Studies	84 credits

Students must have a cumulative grade point average of 2.75 or better to be admitted to advanced standing for teacher education. Graduation requires a 2.75 overall grade point average. Participation in a related organization is required.

Program Requirements

General Education

43-44 credits required

A. Communication Skills	8 Credits
ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning	6 Credits
MATH-121 Introductory College Mathematics II (or higher level)	4
STAT-130 Elementary Statistics (or higher level)	2

C. Health and Physical Education	2 Credits
<i>Courses must be from areas of health, physical education or nutrition.</i>	

D. Humanities and the Arts*	9 Credits
LIT-XXX Any Literature	3
XXX-XXX Any Creative/Performing Arts	3
<i>Remaining course must be from areas including art history, creative arts, history, literature, music appreciation, performing arts or philosophy. * Either HIST-210 Modern World must be taken under this category or ANTH-220 Cultural Anthropology must be taken under Category E.</i>	

E. Social and Behavioral Sciences *	9 Credits
POLS-210 Government	3
PSYC-110 General Psychology	3
<i>Remaining course must be from areas of anthropology, economics, geography, political science, psychology or sociology. * See previous note under Category D.</i>	

Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchI.shtml.

- ▶ Pass the Pre-Professional Skills Test (PPST)
- ▶ Attain a 2.75 cumulative grade point average
- ▶ Pass the required teacher background check
- ▶ Earn a grade of at least 2.00 (C) in ENGL-101 and ENGL-102 or ENGL-111 and ENGL-112.
- ▶ Earn a minimum grade of 2.00 (C) in SPCOM-100 Fundamentals of Speech.
- ▶ Earn a minimum grade of 2.00 (C) in TECED-160 Introduction to Technology Education
- ▶ Complete EDUC-326 Foundations of Education
- ▶ Complete General Education Technology requirement
- ▶ Satisfactory rating on Benchmark I Portfolio Assessment rubric
- ▶ Satisfactory rating on Benchmark I Student Interview

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchI.shtml.

- ▶ Complete Application for Student Teaching form
- ▶ Maintain a 2.75 grade point average
- ▶ Pass Content Knowledge Exam (Praxis II)
- ▶ Receive clearance through an updated background check
- ▶ Complete a satisfactory tuberculosis (TB) test
- ▶ Receive satisfactory portfolio assessment by faculty
- ▶ Receive satisfactory rating on Benchmark II Student Interview
- ▶ Submit copies of resume to the School of Education prior to student teaching

Benchmark III: Program Completion

Benchmark III must be completed before you can be recommended for licensure. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchI.shtml.

- ▶ Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- ▶ Complete all program coursework
- ▶ Meet all program-specific requirements
- ▶ Student teach at two levels: Middle School and High School.
- ▶ Receive a satisfactory student teaching assessment

F. Natural Sciences (with Lab) 7-8 Credits

BIO-XXX	Any Biology with lab.....	3-4
<i>Choose the following PHYS courses or others at a higher level:</i>		
PHYS-211	Introduction to Physics	3
PHYS-212	Introduction to Physics Lab	1

G. Technology 2 Credits

Major Studies**84 credits required**

Professional Education 46 credits

EDUC-303	Educational Psychology*	3
EDUC-326	Foundations of Education*	2
EDUC-336	Multiculturalism: Issues and Perspectives*	2
EDUC-376	Field Experience - Cross Cultural Experience	1
EDUC-382	Secondary Reading and Language Development*	2
SPED-430	Inclusion of Students With Exceptional Needs*	3
TECED-160	Introduction to Technology Education*	3
TECED-260	Curriculum, Methods and Assessment for Technology Education*	3
TECED-325	Technology for Elementary School Children*	2
TECED-340	Middle School Technology Education	2
TECED-360	Technology Education Pre-Clinical Experience	1
TECED-390	Laboratory and Classroom Management in Technology Education*	3
TECED-409	Student Teaching	16
TECED-460	Advanced Curriculum Methods and Assessment for Technology Education*	3

**Must earn a "C" or better.*

Fundamentals of Technology 17 credits

MFGT-110	Materials and Manufacturing Processes	3
POWER-260	Introduction to Fluid Power	2
RD-205	Design for Industry	3

Take two of the following courses:

MFGT-202	Welding and Casting Processes	3
MFGT-203	Machining Metal Forming Processes	3
MFGT-204	Polymer Processes	3

Take one of the following courses:

AEC-131	Architectural Graphics	3
CADD-112	Engineering Drawing I	3

Human Endeavors 15 Credits

TCS-304	Communications and Information Systems	3
INMG-314	Industrial Enterprise Practicum	3
AEC-172	Construction Technology	3
TRANS-202	Transportation Systems	2
TRANS-203	Transportation Systems Laboratory	1
TRANS-204	Energy Technology	2
TRANS-205	Energy Technology Laboratory	1

Advanced Technical Selectives 6 credits

All technology education students are required to meet with their advisor to plan their Advanced Technical Selectives. The purpose of this requirement is to provide the student with an opportunity to create more depth of understanding and skill within technical areas that are likely to be part of their teaching responsibilities at the secondary level. Some courses or sequences of courses may provide a student the opportunity to seek certifications by outside accrediting bodies such as Project Lead the Way. Technical college transfers need to meet with an advisor to gain approval of technical transfer courses.

Vocational Certification

A student who wishes to become certifiable to teach an advanced level occupational skills course in Wisconsin must complete this degree program, a course in Principles of Career and Technical Education, and a course in Organization and Administration of Cooperative Education Programs. The student must also have a minimum of 2,000 hours of related work experience.

Vocational Rehabilitation

Introduction

The main objective of this program is to provide the field of rehabilitation with baccalaureate level personnel who have the competencies necessary to help persons with disabilities optimize their vocational potential. A general listing of these competencies includes:

1. Knowledge of the history, philosophy and development of the rehabilitation movement; knowledge of the rehabilitation process as it exists in various settings, including supported environments, rehabilitation organizations, private rehabilitation, vocational rehabilitation agencies; knowledge of mental, physical and social disabilities plus the vocational limitations of these disabilities; knowledge of, and ability to utilize community resources to assist persons with disabilities; knowledge of, and ability to relate to allied professions: medicine, psychology, social work, physical therapy; and knowledge of, and ability to utilize occupational information and career planning methods.
2. Elementary skill in the use of vocational evaluation techniques, elementary skill in work adjustment and counseling techniques, and elementary skill in utilizing job placement and follow-up procedures for persons with disabilities.
3. Ability to interact effectively with persons with disabilities. This could include persons with physical, emotional and social disabilities such as mental illness, mental retardation, blindness, deafness, alcoholism, epilepsy, and those who have committed criminal offenses.

The graduates of this program are employed in community-based rehabilitation programs, rehabilitation organizations, vocational rehabilitation agencies, private rehabilitation, correctional centers, business and industry, adult day centers, adolescent treatment programs and services, mental health clinics, halfway houses, and a variety of other settings serving persons with disabilities. Students who complete Special Education Certification are endorsed for Wisconsin licensure to teach students with cognitive disabilities, grades 6-12. Opportunities for advancement to supervisory and administrative positions are excellent. Graduate study in rehabilitation is available in more than 80 colleges and universities.

Students must select their concentration option by the end of the first semester of their junior year. Students who do not complete a concentration must submit a written plan showing development of a coherent selection of coursework consistent with the objectives of the degree. The plan must be submitted and approved by the program director by the end of the first semester of the junior year.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	55 credits
Concentration, Minor or Specialization	22-25 credits
Electives	2-5 credits

Students who are taking the Special Education Certification concentration should turn to that section for program requirements. Students taking any of the other concentrations should refer to the program requirements that follow here.

Program Requirements for Vocational Rehabilitation

General Education

42 credits required

A. Communication Skills

8 Credits

ENGL-101	Freshman English – Composition <i>or</i>	
ENGL-111	Freshman English – Honors I	3*
ENGL-102	Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112	Freshman English – Honors II	3*
SPCOM-100	Fundamentals of Speech	2*

B. Analytic Reasoning

6 Credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

PSYC-110	General Psychology	3
<i>Remaining courses must be from three or more areas including anthropology, economics, geography, political science and sociology.</i>		

F. Natural Sciences (with Lab)

4 Credits

BIO-132	Human Biology	4
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G. Technology

2 Credits

H. General Education Electives

2 Credits

Courses must come from categories A, B, D, E and F.

**Minimum grade of 2.0 is required; course must be repeated if minimum grade is not earned.*

Major Studies

55 credits required

A minimum grade of 2.0 is required in all rehabilitation studies. After earning 90 credits, students must maintain a 2.5 grade point average in rehabilitation studies to continue in the degree program.

Required Courses (34 credits)

BIO-220	Physiology of Disabilities	3
COUN-405	Introduction to Counseling Skills	3
REHAB-101	Introduction to Rehabilitation	3
REHAB-102	Community Resources	3
REHAB-205	Rehabilitation Practicum	3
REHAB-230	Psycho-Social Aspects of Disabilities	3
REHAB-310	Vocational Evaluation.....	3
REHAB-401	Principles and Techniques of Caseload Management	2
REHAB-410	Job Placement Processes	3
REHAB-420	Psychological Testing – People with Exceptional Need	3
REHAB-470	Work Adjustment Services	3
REHAB-X98	Field Experience in Rehabilitation	2

Rehabilitation Studies

Select 21 credits, including a minimum of two courses from Disability Selectives and two from Service Delivery Selectives.

Disability Selectives

Select at least two courses from the following:

COUN-494	Counseling Older Persons or	
HDFS-225	Skill Training for Individual and Family Interventions	3
PSYC-361	Abnormal Psychology	3
PSYC-370	Interpersonal Effectiveness.....	2
REHAB-355	Rehabilitation of the Older Disabled Worker.....	2-3
REHAB-305	Sign Language I	3
REHAB-306	Sign Language II	3
REHAB-325	Rehabilitation and Sensory Disability	3
REHAB-320	Rehabilitation and Chemical Dependency	3
REHAB-321	Rehabilitation of Public Offenders.....	3
REHAB-480	Advanced Rehabilitation Practicum	2-6
REHAB-482	Sexuality and Disability.....	2
REHAB-327	Psychiatric Rehabilitation	2
SCOUN-447	Behavior Problems of Children	2
SOC-360	Sociology of Juvenile Delinquency.....	3
SOCWK-440	Social Work with Groups	3
SPCOM-310	Introduction to Communication Disorders.....	3
SPED-300	Introduction to Individuals With Cognitive Disabilities	3
SPED-301	Learning Disabilities	3
SPED-430	Inclusion of Students with Exceptional Needs	3

Service Delivery Selectives

Select at least two courses from the following:

REHAB-300	Special Topics in Rehabilitation	1-2
REHAB-309	Introduction to Biofeedback	3
REHAB-350	Independent Living	2
REHAB-360	Assistive Technology.....	2
REHAB-361	Microcomputer Applications in Rehabilitation.....	2
REHAB-365	Laboratory in Rehabilitation Technology	2
REHAB-402	Rehabilitation Program Operations.....	3
REHAB-452	Group Processes in Rehabilitation Settings	2
REHAB-460	Rehabilitation in the Private Sector	3
REHAB-461	Forensics for the Rehabilitation Professional	2
REHAB-462	Disability Management	3
REHAB-483	Vocational Counseling Issues	1-3
REHAB-488	Developing Collaborative Partnerships	3
REHAB-X49	Rehabilitation Cooperative Education Experience	2-6
REHAB-X99	Independent Study	1-3

SOCWK-205	Introduction to Social Work	3
SOCWK-420	Child and Family Agencies.....	3
SOCWK-430	Social Casework Methods.....	3
SPED-324	Curriculum and Instruction:Career and Transition Education	3

Concentrations

22 credits required

A minimum grade of 2.0 is required in all concentration courses.

Community-Based Rehabilitation 22 credits

Required Concentration Courses (15 credits)

BUMKG-330	Principles of Marketing	3
CTE-334	Performance Analysis.....	2
REHAB-350	Independent Living	2
REHAB-360	Assistive Technology.....	2
REHAB-402	Management of Non-Profit Organizations	3
REHAB-480	Advanced Rehabilitation Practicum	3

Restricted Concentration Electives (7 credits)

BULGL-318	Business Law I	3
ECON-420	Labor Economics.....	3
ECON-421	Collective Bargaining and Labor Relations	2
INMG-400	Organizational Leadership.....	3
PSYC-370	Interpersonal Effectiveness.....	2
PSYC-379	Public Relations	2
REHAB-462	Disability Management	3
REHAB-460	Rehabilitation in the Private Sector	3
REHAB-X99	Independent Study	1-3
REHAB-488	Developing Collaborative Partnerships	3
SOC-340	Sociology of Work.....	3
SPCOM-200	Persuasive Speaking	2
TECH-340	Future of Work	1-2

Independent Living Rehabilitation 22 credits

Required Concentration Courses (15 credits)

COUN-406	Peer Supervisory Experience	1
PSYC-370	Interpersonal Effectiveness.....	2
REHAB-350	Independent Living	2
REHAB-360	Assistive Technology.....	2
REHAB-480	Advanced Rehabilitation Practicum	3
REHAB-482	Sexuality and Disability	2
REHAB-488	Developing Collaborative Partnerships	3

Restricted Concentration Selectives (7 credits)

FCSE-385	Family Housing.....	3
FN-102	Nutrition For Healthy Living.....	2-3
HDFS-115	Individual/Family Relations	3
HDFS-255	Lifespan Human Development.....	3
HDFS-340	Human Development: Late Adulthood	2
PSYC-371	Introduction to Health Psychology	3
REHAB-452	Group Processes in Rehabilitation Settings	2
REHAB-X99	Independent Study	1-3
SOC-215	Sociology of the Family	3
SOCWK-205	Introduction to Social Work	3
SOCWK-420	Child and Family Agencies.....	3

Individualized 22 credits

Required Concentration Courses – none.

Restricted Concentration Selectives – 22 credit block chosen in conjunction with and approved by program director.

Recreational Rehabilitation 22 credits

Required Concentration Courses (14 credits)

HLTH-340	ARC Standard First Aid and Personal Safety	2
HLTH-355	Kinesiology	3
REHAB-480	Advanced Rehabilitation Practicum	3
PSYC-371	Introduction to Health Psychology	3
SOC-325	Sociology of Leisure	3

Restricted Concentration Selectives (8 credits)

HLTH-101	Discovering Wellness	1
HLTH-365	Physiology of Exercise	3
PE-265	Physical Activities for Young Children	2
PE-352	Theory and Management of Coaching	2
PE-362	Psycho-Social Aspects of Athletics	2
PE-480	Coaching Youth Athletes	2
PE-XXX	Any Physical Education (activity)	1
REHAB-X99	Independent Study	1-3

Note: No activity course may be counted to fill both GE health/physical education requirements and restricted concentration selectives.

Rehabilitation Counseling 22 credits

Required Concentration Courses (15 credits)

COUN-406	Peer Supervisory Experience	1
HDFS-225	Skill Training for Individual/Family Interventions	3
PSYC-120	Psychology of Adjustment	3
REHAB-480	Advanced Rehabilitation Practicum	3
REHAB-320	Rehabilitation and Chemical Dependency	3
REHAB-452	Group Processes in Rehabilitation Settings	2

Restricted Concentration Selectives (7 credits)

COUN-494	Counseling Older Persons	2-3
HDFS-310	Family Stress, Coping and Adaptation	1
HDFS-332	Death and Bereavement	1
HDFS-370	Introduction to Marriage and Family Therapy	3
PSYC-370	Interpersonal Effectiveness	2
PSYC-466	Alcoholism and Family Systems Intervention	2
PSYC-484	Introduction to Behavior Modification	2
REHAB-321	Rehabilitation of Public Offenders	3
REHAB-482	Sexuality and Disability	2
REHAB-483	Vocational Counseling Issues	2
REHAB-488	Developing Collaborative Partnerships	3
REHAB-X99	Independent Study	1-3
SOC-215	Sociology of the Family	3
SOC-340	Sociology of Work	3
SOCWK-420	Child and Family Agencies	3

Rehabilitation Technology 22 credits

Required Concentration Courses (15-16 credits)

ART-100	Drawing I or	
CADD-112	Engineering Drawing I	2-3
RC-387	Human Factors Engineering	3
RD-205	Design for Industry	3
REHAB-480	Advanced Rehabilitation Practicum	3
REHAB-360	Assistive Technology	2
REHAB-365	Laboratory in Rehabilitation Technology	2

Restricted Concentration Selectives (6-7 credits approved by adviser)

AEC-170	Light Construction Methods	2
APRL-381	Functional Clothing Design	3
CADD-234	Computer Assisted Design and Drafting or	
CADD-113	Engineering Drawing II	2-3
CS-140	Computer Concepts	2
DES-200	Design Theory and Methods	3
ELEC-204	Electricity-Electronics Fundamentals	3
HLTH-355	Kinesiology	3
MFGT-102	Manufacturing Materials and Processes I	3
MFGT-103	Manufacturing Materials and Processes II	3
MFGT-230	Metal Machining Technology	3
POWER-260	Introduction to Fluid Power	2
POWER-362	Industrial Pneumatics	2
RC-381	Occupational Safety/Loss Control	2-3
REHAB-315	Rehabilitation and Criminal Justice	3
RC-383	Voluntary OSHA Compliance	2-3
REHAB-X99	Independent Study	1-3
REHAB-361	Microcomputer Applications in Rehabilitation	2

Criminal Justice 25 credits

Required Concentration Courses (15 credits)

REHAB-315	Rehabilitation and Criminal Justice	3
REHAB-321	Rehabilitation of Public Offenders	3
REHAB-488	Developing Collaborative Partnerships	3
REHAB-480	Advanced Rehabilitation Practicum	3
SOC-315	Criminology	3

Choose one Disability Selective (3 credits)

PSYC-361	Abnormal Psychology	3
SOC-360	Sociology of Juvenile Delinquency	3
SPED-301	Learning Disabilities	3
SPED-300	Introduction to Individuals with Cognitive Disabilities	3

Choose one AODA Selective (2-3 credits)

PSYC-466	Alcohol and Family Systems Intervention	2
REHAB-300B	Juvenile Use/Abuse of Alcohol and Other Drugs	2
REHAB-320	Rehabilitation and Chemical Dependency	3

Choose one Prevention/Intervention Selective (2-3 credits)

CTE-474	Adult Education	2
HDFS-225	Skill Training for Individual/Family Interventions	3
REHAB-452	Group Processes in Rehabilitation Settings	2
SOCWK-430	Social Casework Methods	3

Choose one Diversity Selective (2-3 credits)

SOC-375	Sociology of Minority Groups	3
HDFL-335	Seminar: Cultural Distinct Child and Family	2
EDUC-307	Applied Human Relations	2
EDUC-336	Multiculturalism Issues and Perspectives	2

Social Work		22 credits
HDFS-225	Skill Training for Individual/Family Interventions	3
HDFS-255	Lifespan Human Development.....	3
HDFS-335	Seminar: The Culturally Distinct Child and Family	2
REHAB-480	Advanced Rehabilitation Practicum	2
SOCWK-205	Introduction to Social Work	3
SOCWK-420	Child and Family Agencies.....	3
SOCWK-430	Social Casework Methods.....	3
SOCWK-440	Social Work with Groups	3

Psychiatric Rehabilitation (22 credits)		
PSYC-120	Psychology of Adjustment	3
PSYC-361	Abnormal Psychology <i>or</i>	
SCOUN-447	Behavior Problems of Children	3
PSYC-466	Alcohol and Family Systems <i>or</i>	
REHAB-327	Psychiatric Rehabilitation	3
REHAB-333	Adolescent Substance Use and Abuse	2
REHAB-480	Advanced Practicum: Psychiatric Rehabilitation.....	3
REHAB-462	Disability Management	3
REHAB-452	Group Processes in Rehabilitation Settings	2
REHAB-488	Developing Collaborative Partnerships	3

Electives

2-5 credit required

Program Requirements for the Special Education Certification Concentration

Leads to Wisconsin #806 Licensure.

General Education

45 credits required

A. Communication Skills*		8 Credits
ENGL-101	Freshman English – Composition <i>or</i>	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning*		6 Credits
MATH-118	Concepts of Mathematics	4
STAT-130	Elementary Statistics	2

C. Health and Physical Education		2 Credits
<i>Courses must be from areas of health, physical education or nutrition.</i>		

D. Humanities and the Arts		10 Credits
LIT-XXX	<i>Any Literature</i>	3
HIST-210	Modern World*	3
HIST-120	Early U.S. History* <i>or</i>	
HIST-121	Modern U.S. History*	3

Remaining course must be from the areas of art history, music appreciation or performing arts.

E. Social and Behavioral Sciences*		9 Credits
POLS-210	American Government*	3
PSYC-110	General Psychology	3
GEOG-104	World Geography*	3

F. Natural Sciences (with Lab)		8 Credits
BIO-101	Introductory Biology.....	4
<i>Select two of the following:</i>		
CHEM-105	Visualizing Chemistry	2
PHYS-151	Astronomy	3
PHYS-211	Introduction to Physics	3
PHYS-255	Meteorology.....	2
PHYS-258	Geology	2

G. Technology		2 Credits
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Special Education Certification

79 credits required

Professional Education*		13 credits
EDUC-303	Educational Psychology.....	3
EDUC-326	Foundations of Education.....	2
EDUC-336	Multiculturalism: Issues and Perspectives.....	2
EDUC-376	Field Experience – Cross Cultural Experience.....	1
EDUC-382	Secondary Reading and Language Development.....	2
SPED-430	Inclusion of Students With Exceptional Needs	3

Major Studies*		66 credits
COUN-405	Introduction to Counseling Skills	3
EDUC-415	Classroom Management	2
HDFS-255	Lifespan Human Development.....	3
PSYC-352	Adolescent Psychology <i>or</i>	
REHAB-101	Introduction to Rehabilitation	3
REHAB-102	Community Resources	3
REHAB-230	Psycho-Social Aspects of Disabilities	3
REHAB-310	Vocational Evaluation.....	3
REHAB-401	Principles and Techniques of Caseload Management	2
REHAB-410	Job Placement Processes	3
REHAB-420	Psychological Testing – People with Exceptional Need	3
SPCOM-310	Introduction to Communication Disorders.....	3
SPED-100	Introduction to Special Education	1
SPED-481	Student Teaching Youth With Cognitive Disabilities.....	16
SPED-300	Introduction to Individuals With Cognitive Disabilities	3
SPED-3522	Curriculum and Instruction: Functional Living Skills	2
SPED-323	Curriculum and Instruction: Academic Skills	3
SPED-324	Curriculum and Instruction: Career and Transition Education	3
SPED-326	Practicum in Special Education.....	2
SPED-328	Assessment for Individual Educational/Transitional Plans	3
SPED-XXX	School, Family, Community Collaboration	3

See program director for grade point average, student teaching, and practicum requirements that lead to certification by UW-Stout. Students must adhere to policies and criteria established for completion of education programs and certification established by the School of Education.

* Courses require a grade of “C” (2.0) or better.

Minors

Introduction

Minors are defined as either “studies in the discipline” or as “teaching.” Teaching minors are those approved by the State Department of Public Instruction for certification. Requirements for the teaching minors include an education major, a methods course in the field, and some student teaching experience in the minor field in addition to the

required credits within the minor. The Approval Form for Minor Program must be submitted to the department offering the minor before starting the minor to assure an acceptable sequence of courses. Approval forms and minor program plans are available in the office of the department offering the minor.

Applied Foreign Language

Department of Speech Communication,
Foreign Language, Theatre and Music

Before declaring the minor, student must have approval of an individual course plan. The applied project requires signatures of both major and minor program advisors. Until a specific course is developed, the applied project will be an independent study.

26 credits are required.

XXX-XXX	Elementary Foreign Language A	8
XXX-XXX	Intermediate Foreign Language A	8
XXX-XXX	Elementary Foreign Language B	8
XXX-XXX	Applied project linking foreign language with student's major program	2

Art

Department of Art and Design

22 credits are required.

Required Courses

AR-100	Drawing I	3
ART-101	Fundamentals of Design	3
ART-222	Introduction to Art	3

Selectives

The additional 13 selective credits may be accumulated to overview or concentrate in one area. Students may select courses in drawing, painting, printmaking, ceramics, art history, art metals, sculpture, interior design, industrial design and graphic design to fulfill the balance of the Art minor. A minimum of six credits must be completed at UW-Stout to receive an Art minor. A minimum grade of “C” (2.0) is required in all courses.

Biology

Department of Biology

20 credits are required

Required courses

BIO-122	Introductory Biology	3
BIO-332	Genetics	3

Select one option from the following:

Option I - Physiology Emphasis:

BIO-234	Physiology and Anatomy	4
BIO-362	Advanced Physiology	3

Option II - Ecology Emphasis:

BIO-150	Environmental Science	2
BIO-242	Botany or	
BIO-252	Zoology	4
BIO-350	Ecology	3

Option III - Self-Directed Emphasis:

Selectives

For options I and II, choose credits from list provided by advisor to complete 20 credits. Students that choose the Self-Directed option III must work with an advisor in the Biology Department and must have the approval of the chair. Selected courses must include two laboratory courses, at least one of which must be at the 300 level or above.

Business Administration

Department of Business

22 credits are required.

Required Courses

BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Introduction – Corporate and Managerial Accounting	3
BUMGT-304	Principles of Management	3
BUMKT-330	Principles of Marketing	3
ECON-210	Principles of Economics I	3
ECON-215	Principles of Economics II	3

Selectives

Select 4 credits from the list supplied by the department.

Chemistry

Department of Chemistry

22 credits are required.

Required Courses

CHEM-125	Principles of Chemistry for Health Sciences or	
CHEM-135	College Chemistry I	5
CHEM-136	College Chemistry II	5
CHEM-201	Organic Chemistry I	4

Select one of the following courses:

CHEM-204	Organic Chemistry II Lecture	3
CHEM-331	Quantitative Analysis	3
CHEM-335	Instrumental Methods of Analysis	3
CHEM-301	Physical Chemistry Lecture and	3
CHEM-303	Physical Chemistry Laboratory	1

Selectives

Additional departmental offerings to complete 22 credits will be selected.

A minimum grade of "C" (2.0) is required in all chemistry courses applied toward the chemistry minor.

Coaching

Department of Physical Education and Athletics

24 credits are required.

Area I: Medical Emergencies (5 credits required)

HLTH-340	ARC Standard First Aid and Personal Safety	2
HLTH-350	Prevention and Care of Athletic Injuries	3

Area II: Principles and Psycho-Social Foundations of Coaching

(4 credits required)

PE-352	Theory and Management of Coaching	2
PE-362	Psycho-Social Aspects of Athletics	2

Area III: Methods and Strategies of Coaching (2 credits required)

PE-401	Coaching Gymnastics	2
PE-460	Coaching Basketball	2
PE-461	Coaching Football	2
PE-465	Coaching Competitive Swimming	2
PE-470	Coaching Baseball	2
PE-471	Coaching Track and Field	2
PE-477	Coaching Tennis	2
PE-478	Coaching and Officiating Volleyball	2
PE-479	Coaching Wrestling	2
PE-480	Coaching Young Athletes	2
PE-481	Coaching Ice Hockey	2
PE-483	Coaching Softball	2
PE-483	Coaching Soccer	2

Area IV: Kinesiological and Biomechanical Foundations of Coaching

(7 credits required)

BIO-132	Human Biology or	
BIO-134	Physiology and Anatomy	4
HLTH-355	Kinesiology	3

Area V: Physiological Foundations of Coaching (3 credits required)

HLTH-365	Physiology of Exercise	3
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Area VI: Practicum in Coaching (required)

PE-490	Practicum in Coaching	1-3
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Area VII: Selectives

Select additional courses from the list supplied by the department for the 24-credit minor.

Computer Science

Department of Mathematics, Statistics and Computer Sciences

22 credits are required.

Required Courses

CS-144	Computer Science I	3
CS-145	Computer Science II	3
CS-241	Assembly Language Programming	3
CS-341	Data Structures	4

Selectives

Select additional courses to complete 22 credits from the approved list supplied by the department. Grades for courses taken for the minor must be 2.0 (C) or better.

Construction Risk Control

Departments of Industrial Management and Technology

18 credits are required.

Required Courses

RC-388	Construction Safety	2
RC-382	Construction Risk Management	3
RC-383	Voluntary OSHA Compliance	3
AEC-449	Cooperative Education Experience	2

Selectives

Select 8 credits for selectives from program plan sheet supplied by advisor. The minor is specifically limited to Construction majors or those who have taken the eight construction course sequence containing the integrated Risk Control content.

Economics

Department of Social Sciences

22 credits are required.

Required Courses

ECON-210	Principles of Economics I	3
ECON-215	Principles of Economics II	3
ECON-325	Economic and Business Statistics or	
ECON-470	Economic Model-building and Forecasting	3
ECON-410	Microeconomics	3
ECON-415	Macroeconomics	3

Selectives

Select additional courses to complete 22 credits from the approved list supplied by the department.

English Teaching

Department of English and Philosophy

25-26 credits are required.

Required Courses

ENGL-340	The Structure of English	3
ENGL-247	Critical Writing	3
LIT-255	Recent World Literature	3
LIT-306	Shakespeare	3
ENGL-407	Teaching English in the Secondary and Middle School	2

Monitored student teaching in the discipline is required.

Select 3 credits from each of the following:

Group A

LIT-248	American Literature	3
LIT-260	Modern American Literature	3

Group B

LIT-301	English Literature	3
LIT-350	Modern British Literature	3

Selectives

Select 2-3 additional credits to complete the minor from the approved list supplied by the department.

Note: Grades of 2.5 or better in English and Literature courses are required for the minor to be awarded.

English Literature

Department of English and Philosophy

15 credits are required.

Take one or more courses in each of the following categories:

Historical Perspective (3 or more credits)

LIT-250	Classical and Biblical Literature in Translation	3
LIT-248	American Literature	3
LIT-350	Modern British Literature	3
LIT-260	Modern American Literature	3
LIT-301	English Literature	3
LIT-306	Shakespeare	3
LIT-450	Studies in Literature	1-3

Cultural and Societal Perspectives (3 or more credits)

LIT-202	The Family in Literature	3
LIT-208	Fiction Into Film	3
LIT-255	Recent World Literature	3
LIT-272	Woman Writers	3
LIT-273	American Multicultural Literature	3
LIT-281	Recent American Literature	3
LIT-450	Studies in Literature	1-3

Genre (3 or more credits)

LIT-203	American Poets	3
LIT-205	The Short Story	3
LIT-286	Detective Fiction	3
LIT-300	Children's Literature	3
LIT-304	American Folklore	3
LIT-280	Best Sellers	3
LIT-285	Science Fiction	3
LIT-450	Studies in Literature	1-3

At least six credits in the minor must be taken at UW-Stout. A student must have a 2.75 grade point average in those English and Literature courses presented for the minor.

English Writing

Department of English and Philosophy

15 credits are required

Select 12-15 credits from the following:

ENGL-207	Writing For the Media	3
ENGL-320	Business Writing	3
ENGL-245	Creative Writing	3
ENGL-246	Informational Writing	3
ENGL-247	Critical Writing	3
ENGL-356	Creative Writing Workshop	3
ENGL-399	Independent Study	1-2
ENGL-418	Writing On Issues	1
ENGL-325	Copy Editing and Preparation	2
ENGL-499	Independent Study	1-2
ENGL-415	Technical Writing	3
ENGL-346	Research Reporting	3

Selectives

Select 0-3 additional credits to complete the minor from the approved list supplied by the department.

At least six credits in the minor must be taken at UW-Stout. A student must have a 2.75 grade point average in those English courses presented for the minor.

Food Technology

Department of Food and Nutrition

35 credits are required.

Required Courses

INMG-200	Production and Operations Management	3
PKG-180	Packaging Fundamentals	2
FN-124	Foods or	
FN-240	Food Science	4
FN-212	Nutrition	3
FN-342	Advanced Foods	3
FN-438	Experimental Foods	3
FN-350	Food Processing	3
BIO-306	General Microbiology	4
CHEM-311	Biochemistry	4
CHEM-315	Food Chemistry	3
PHYS-211	Introduction to Physics	3

Gaming Entertainment Management

Department of Hospitality and Tourism

22 credits are required.

Required Courses

HT-315	Gaming Management	3
HT-316	Casino Operations Management	3
HT-317	Psychosocial Issues in Gaming	3
HT-418	Casino Tourism	3

Select one course from each of the following groups:

HT-251	Hospitality Marketing and Sales or	
BUMKG-330	Principles of Marketing or	
SRVM-354	Services Marketing Management	3
HT-361	Hospitality Accounting or	
BUACT-206	Introduction Financial Accounting	3
HT-460	Hospitality Law and Liability or	
BULGL-318	Business Law	3
HT-360	Hospitality for the Handicapped Traveler	1

Health and Fitness

Department of Physical Education and Athletics

18-21 credits are required.

Required Courses

HLTH-375	Organization and Administration of Health Education	3
HDFL-115	Individual and Family Relations	or
HDFL-728	Family Life Issues	2-3
FN-102	Nutrition for Healthy Living	2
BIO-132	Human Biology	or
BIO-234	Physiology and Anatomy	4
HLTH-360	Personal Health and Wellness	3
HLTH-340	ARC Standard First Aid and Personal Safety	2
	(or current certification)	
HT-390	Recreation and Fitness Management	2
HT-XXX	Health and Fitness Practicum	2

Selectives

1-4 additional credits of selectives from program plan sheet supplied by advisor.

Health and Fitness Education

Department of Physical Education and Athletics

24 credits are required.

Required Courses

BIO-132	Human Biology	or
BIO-234	Physiology and Anatomy	4
HLTH-360	Personal Health and Wellness	3
HLTH-375	Methods in Health Education	2
HLTH-376	Organization and Administration of Health Education	3
HLTH-485	Student Teaching in Health Education	2

Selectives

10 additional credits of selectives from program plan sheet supplied by advisor.
A teaching major with professional education courses is required for teacher certification.

History

Department of Social Sciences

22 credits are required.

Required Courses

HIST-120	Early United States History	3
HIST-121	Modern United States History	3
HIST-140	Western Civilization	3
HIST-141	Western Civilization	3

Selectives

Additional departmental offerings to complete 22 credits will be selected.

Students who take a teaching minor must include two of the following courses:

HIST-322	African-American History	3
HIST-360	Asian History	3
HIST-380	Latin American History	3

Two credits of EDUC-305 Teaching Practicum must also be taken, in addition to the 22-credit minor.

Human Development and Family Studies

Department of Human Development, Family Living,
and Community Educational Services

22 credits are required.

Required Courses

HDFL-115	Individual and Family Relations	3
HDFL-225	Lifespan Human Development	3
HDFL-215	Dynamics of the Family	3

Additional departmental offerings to complete 22 credits will be selected.

Human Resource Management

Department of Psychology

22 credits are required. Students are required to fulfill credit requirement in Sections A (9 credits) and F (2 credits) and complete credit requirements in 4 of the remaining 5 areas (Sections B-E, G).

A. Core courses (9 credits)

PSYC-382	Human Resource Management	3
PSYC-485	Recruitment and Selection of Human Resources	3
PSYC-403	Management of Employee Reward Systems (Compensation) ..	3

B. Diversity (2-3 credits)

PSYC-340	Psychology of Individual and Group Difference	3
INMGT-415	Women and Minorities in Management	2
PSYC-372	Psychology of Sex and Gender	3
REHAB-462	Disability Management	3

C. Teamwork (3 credits)

SPCOM-314	Interviewing	1
INMGT-430	Employee Involvement: Work Teams	2

D. Organization Training and Development (3 credits)

TRHRD-360	Training Systems in Business and Industry	3
INMGT-325	Quality Management	3

E. Leadership (3 credits)

EDUC-4XX	Transformational Leadership	3
INMGT-400	Organizational Leadership	3

F. Experiential (2 credits, with approval)

PSYC-X98	Psychology Field Experience	2
PSYC-X49	Cooperative Education Experience	1-8
PSYC-XXX	Human Resource Management Practicum	2

G. Other Supportive Courses (2-3 credits, with approval)

BULGL-318	Business Law I	3
BULGL-401	Legal Environment of Business	2
ECON-420	Labor Economics	3
ECON-421	Collective Bargaining and Labor Relations	2
INMGT-320	Quality Assurance	3
INMGT-325	Quality Management	3

Journalism

Department of English and Philosophy

22 credits are required.

Required Courses

MEDIA-304	Elementary Photography	2-3
GCM-141	Graphic Communications and Electronic Publishing	3
ENGL-207	Writing for the Media	3
ENGL-210	Journalism Practicum	1
ENGL-325	Copy Editing and Preparation	2

Writing Selectives

Select 3 to 10 credits from the following:

ENGL-320	Business Writing	3
ENGL-245	Creative Writing	3
ENGL-246	Informational Writing	3
ENGL-247	Critical Writing	3
ENGL-415	Technical Writing	3

Technical Specialty Selectives

Select up to 7 credits from the following:

Projects Emphasis:

ENGL-210	Journalism Practicum	1
ENGL-437	Technical Writing Practicum	1-3

Public Relations Emphasis:

BUMKG-370	Principles of Advertising	3
PSYC-379	Public Relations	2

Media Emphasis:

ENGL-318	Mass Communication: Effects of Technology on Society	3
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Production Emphasis:

GCM-345	Publications Production	3
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Lodging Management

Hospitality and Tourism Department

23 credits are required.

Required Courses

BUACT-206	Introduction to Financial Accounting	3
BULGL-318	Business Law	3
HT-133	Front Office Management	3
HT-130	Housekeeping Procedures	2
HT-200	Hospitality Organization Management	3
HT-251	Hospitality Marketing	3
HT-361	Hospitality Accounting	3
HT-430	Lodging Administration	3

Materials

Chemistry Department

22-27 credits are required.

Required Courses

MFGE-333	Polymer Processes	3
MFGE-343	Casting, Ceramics and Powder Metal Processes	3
CHEM-201	Organic Chemistry I	4
CHEM-301	Physical Chemistry Lecture	3
CHEM-303	Physical Chemistry Laboratory	1
CHEM-341	Chemistry of Materials	4

Selectives

Select one course with approval of minor adviser.

CHEM-440	Advanced Materials Laboratory	1-3
XXX-X99	Independent Study in Materials	1-3

Select one option with approval of minor adviser

Option 1

CHEM-470	Chemistry of Materials II	3
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Option 2

PHYS-331	Statics	3
PHYS-333	Dynamics	3

Option 3

MFGE-293	Engineering Mechanics	3
MFGE-294	Mechanics of Materials	3

As background for the materials minor, it is recommended that either CHEM-135 College Chemistry I, or CHEM-125 Chemistry for the Health Sciences be selected as a natural science general education course.

Mathematics

Department of Mathematics, Statistics and Computer Sciences

Teaching Certification

24 credits are required.

Twenty-two credits must be in the discipline and two credits in a teaching practicum.

Choose one option:

Option 1:

STAT-330	Probability and Statistics for Engineering and the Sciences ...	3
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Option 2:

STAT-331	Probability and Mathematical Statistics I	3
STAT-332	Probability and Mathematical Statistics II	3

Option 3:

STAT-320	Statistical Methods	3
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Required Courses

MATH-153	Calculus I or	
MATH-156	Calculus and Analytic Geometry I	4-5
MATH-154	Calculus II or	
MATH-157	Calculus and Analytic Geometry II	4-5
MATH-262	Modern Geometry	3
MATH-275	Linear Algebra	3
MATH-370	Modern Algebra I	3
EDUC-305	Teaching Practicum	2
CS-X4X	Formal computer programming course – CS-141 or higher ...	2-3

Selectives

Additional courses to complete 24 credits will be selected with advisement.

Non-teaching Minor

22 credits required.

Required Courses

Select one option:

Option 1:

MATH-153	Calculus I	4
MATH-154	Calculus II	4

Option 2:

MATH-156	Calculus and Analytic Geometry I	5
MATH-157	Calculus and Analytic Geometry II	5

Select at least 9 credits from the following:

STAT-330	Probability and Statistics for Engineering and the Sciences ...	3
STAT-331	Probability and Mathematical Statistics I	3
STAT-332	Probability and Mathematical Statistics II	3
MSCS-344	Graph Theory With Applications in Computer Science	3
MSCS-446	Numerical Analysis I	3
MSCS-447	Numerical Analysis II	3
MATH-158	Calculus III	3
MATH-250	Differential Equations/Linear Algebra	3
MATH-255	Differential Equations	3
MATH-262	Modern Geometry	3
MATH-275	Linear Algebra	3
MATH-370	Modern Algebra I	3
MATH-371	Modern Algebra II	3
MATH-450	Real Analysis I	3
MATH-460	Complex Variables With Applications	3

Select up to 6 credits from the following:

CS-141	Computer Programming – BASIC	2
CS-144	Computer Science I	3
CS-145	Computer Science II	3
STAT-320	Statistical Methods	3

The course STAT-320 may not be included if either STAT-331 or STAT-332 is selected.

Note: Both the teaching and non-teaching minors require a grade point of 2.0 or better in all courses applied to the minor.

Physics

Department of Physics

22 credits are required.

Required Courses

Select one group from the following:

Group I:

PHYS-241	College Physics I	5
PHYS-242	College Physics II	5

Group II:

PHYS-281	University Physics I	5
PHYS-282	University Physics II	5
PHYS-329	Atomic and Nuclear Physics	3

Selectives

At least 9 credits from departmental offerings at the 300-level or higher must be included in the minor program.

Property Management

Department of Hospitality and Tourism

21-24 credits are required.

Required Courses

INMGT-450	Maintenance Management	2
BUACT-206	Introduction to Financial Accounting	3
BULGL-365	Principles of Real Estate	2
HT-370	Principles of Property Management	3
HT-470	Seminar in Property Management	2
HT-4XX	Any hospitality and tourism field experience	1-3
BULGL-318	Business Law I or	
HT-460	Hospitality Law and Liability	3

Real Estate Tracks (choose one)

Track 1: Real Estate Operations

HT-371	Commercial/Residential Property Development and Management	3
HT-330	Resort Operations and Management	3

Track 2: Resort Operations

HT-XXX	Time Share Administration	3
HT-XXX	Time Share Management	3

Track 3: Individual Program Design

Any 300- or 400-level course from AEC, BULGL, INMGT or HT approved by the Minor adviser.

Psychology

Department of Psychology

18 credits are required.

Required Courses

PSYC-110	General Psychology	3
PSYC-190	Psychological Research Methods	4
PSYC-251	Child Psychology or	
PSYC-352	Adolescent Psychology	3
PSYC-460	Personality and Mental Health or	
PSYC-361	Abnormal Psychology or	
PSYC-473	Psychology of Stress	2-3

Selectives

Select 5-6 or more credits from any of the courses above not already taken or from the list supplied by the department.

Quality Management

Department of Industrial Management

20-21 credits are required.

Required Courses

INMGT-120	Quality Concepts	3
INMGT-320	Quality Assurance	3
INMGT-325	Quality Management	3
INMGT-220	Quality Systems – Service Industries or	
INMGT-420	Quality Practicum	3-4

Selectives

Select 8 additional credits from the list supplied by the department.

Retailing

Department of Business

21 credits are required.

Required Courses

BURTL-112	Trend Forecasting	3
BURTL-227	Basic Merchandising	3
BURTL-229	Visual Merchandising or	
BURTL-327	Store Management	3
BURTL-329	Fashion Promotions	3
BURTL-425	Current Retail Strategies	2
BURTL-430	Merchandise Planning and Control	4

Selectives

3-6 additional retail course credits approved by the department.

Sociology

Department of Social Sciences

21 credits are required.

Required Courses

ANTH-220	Cultural Anthropology	3
SOC-110	Introductory Sociology	3
SOCWK-205	Introduction to Social Work	3

Selectives

Additional courses to complete 21 credits will be selected from the program plan sheet provided by the department.

Note: A minimum grade of C- is required for each course in the minor with an overall grade point average of 2.5 in required courses. The three required courses and at least two selective courses must be completed at UW-Stout to fulfill the residency requirement.

Spanish

Department of Speech Communication,

Foreign Language, Theatre and Music

24 credits are required.

Required Courses

SPAN-121	Practical Spanish I and	
SPAN-122	Practical Spanish II	4
	or	
SPAN-103	Elementary Spanish I	4
SPAN-104	Elementary Spanish II	4
SPAN-201	Intermediate Spanish I	4
SPAN-202	Intermediate Spanish II	4
SPAN-227	Conversation and Composition	2
SPAN-229	Hispanic Literature in America	2

4-6 additional Spanish course credits approved by the Spanish advisor.

Speech Communication

Department of Speech Communication,

Foreign Language, Theatre and Music

Teaching minor

22 credits are required.

Required Courses

ENGL-318	Mass Communication in American Society	3
SPCOM-101	Forensics	1-2
SPCOM-102	Forensics	1-2
SPCOM-200	Persuasive Speaking	2
SPCOM-202	Oral Interpretation	2
SPCOM-206	Discussion	2
SPCOM-208	Theory of Communication	3
SPCOM-210	Interpersonal Speech Communication	1-2
SPCOM-236	Listening	2
SPCOM-310	Introduction to Speech Correction	2
SPCOM-312	Intercultural Communication	2
SPCOM-412	Teaching Speech in Middle and Secondary Schools	2

To achieve certification, students must participate in a monitored student teaching experience in a speech communication discipline or disciplines. A minimum grade point average of 2.75 with no grade lower than "C" is required. At least six (6) credits of the minor must be from courses offered by the UW-Stout Speech department to fulfill the residency requirement.

Discipline Minor

17 credits are required.

Required Courses

SPCOM-100	Fundamentals of Speech	2
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Selectives

Select 17 credits from the list supplied by the department and approved by the Speech Minor adviser to best fulfill your individual, career and academic needs.

Technical Writing

Department of English and Philosophy

15 credits are required.

Required Courses

ENGL-325	Copy Editing and Preparation	2
ENGL-415	Technical Writing	3
ENGL-435	Writing Technical Manuals	3
ENGL-437	Technical Writing Practicum	1-3

Select two courses from the following:

XXX-X49	Cooperative Education Experience	2-8
ENGL-207	Writing for the Media	3
ENGL-246	Informational Writing	3

Tourism

Department of Hospitality and Tourism

24 credits are required.

Required Courses

HT-140	Introduction to Tourism	2
HT-340	Development of Tourism Attractions	3
HT-240	Tourism Goods and Services	3
HT-440	Sociocultural Systems of Tourism	3
HT-341	Geography of Tourism	3
HT-360	Hospitality and the Handicapped Traveler	1

Select 4 credits from the following:

FREN-101	Elementary French I	4
FREN-102	Elementary French II	4
SPAN-103	Elementary Spanish I	4
SPAN-104	Elementary Spanish II	4

A comparable number of credits in a well-known language used in travel and trade may be substituted.

Selectives

Five credits required.

Traffic Safety Education

Risk Control Center

22 credits are required.

Required Courses

RC-271	Safety Principles and Practices	3
RC-374	Driver Education Laboratory Methods and Techniques	3
RC-375	Driver and Traffic Safety	3
RC-341	Alcohol, Drugs and Accident Prevention	3
RC-372	Behavioral Approach to Accident Prevention	3

Select 7 credits from the following:

MEDIA-360	Introduction to Media in Education and Training	2
RC-381	Occupational Safety/Loss Control	2-3
TECED-205	Teaching Methods Technology/Vocational Education	2
TECED-405	Curriculum Technology/Vocational Education	2
FCSE-201	Presentation Strategies for Family and Consumer Sciences ..	2
FCSE-301	Family and Consumer Sciences Education Curriculum	3
SCOUN-301	Introduction to Guidance	2
EDUC-303	Educational Psychology	3
HLTH-340	ARC Standard First Aid and Personal Safety	2

Vocational Rehabilitation

Department of Rehabilitation and Counseling

22 credits are required.

Required Courses

REHAB-101	Introduction to Rehabilitation	3
REHAB-102	Community Resources	3
REHAB-205	Rehabilitation Practicum	3-4
REHAB-230	Psychosocial Aspects of Disability	3

Selectives

Additional departmental offerings to complete 22 credits will be selected.

Women's Studies

College of Arts and Sciences

22 credits are required.

Required Courses

WS-210	Introduction to Women's Studies	2
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Selectives

Additional courses to complete 20 credits will be selected with approval of the advisor.

Technical Writing

Department of English and Philosophy

15 credits are required.

Required Courses

ENGL-325	Copy Editing and Preparation.....	2
ENGL-415	Technical Writing	3
ENGL-435	Writing Technical Manuals	3
ENGL-437	Technical Writing Practicum	1-3

Select two courses from the following:

XXX-X49	Cooperative Education Experience.....	2-8
ENGL-207	Writing for the Media	3
ENGL-246	Informational Writing	3

Tourism

Department of Hospitality and Tourism

24 credits are required.

Required Courses

HT-140	Introduction to Tourism	2
HT-340	Development of Tourism Attractions	3
HT-240	Tourism Goods and Services	3
HT-440	Sociocultural Systems of Tourism	3
HT-341	Geography of Tourism.....	3
HT-360	Hospitality and the Handicapped Traveler	1

Select 4 credits from the following:

FREN-101	Elementary French I.....	4
FREN-102	Elementary French II.....	4
SPAN-103	Elementary Spanish I	4
SPAN-104	Elementary Spanish II	4

A comparable number of credits in a well-known language used in travel and trade may be substituted.

Selectives

Five credits required.

Traffic Safety Education

Risk Control Center

22 credits are required.

Required Courses

RC-271	Safety Principles and Practices or	
RC-381	Principles of Occupational Safety/Loss Control	3
RC-371	Alcohol, Drugs and Accident Prevention	3
RC-372	Behavioral Approach to Accident Prevention.....	3
RC-374	Driver Education Laboratory Methods and Techniques	3
RC-375	Driver and Traffic Safety	3

Select 7 credits from the following:

MEDIA-360	Introduction to Media in Education and Training	2
TECED-205	Teaching Methods Technology/Vocational Education	2
TECED-405	Curriculum Technology/Vocational Education.....	2
FCSE-201	Presentation Strategies for Family and Consumer Sciences	2
FCSE-301	Family and Consumer Sciences Education Curriculum.....	3
SCOUN-301	Introduction to Guidance	2
EDUC-303	Educational Psychology	3
HLTH-340	ARC Standard First Aid and Personal Safety.....	2
SPCOM-236	Listening.....	2

Vocational Rehabilitation

Department of Rehabilitation and Counseling

22 credits are required.

Required Courses

REHAB-101	Introduction to Rehabilitation.....	3
REHAB-102	Community Resources	3
REHAB-205	Rehabilitation Practicum.....	3-4
REHAB-230	Psychosocial Aspects of Disability	3

Selectives

Additional departmental offerings to complete 22 credits will be selected.

Women's Studies

College of Arts and Sciences

22 credits are required.

Required Courses

WS-210	Introduction to Women's Studies	2
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Selectives

Additional courses to complete 20 credits will be selected with approval of the adviser.

Specializations

Introduction

Specializations are programs of study, with carefully constructed learning goals and experiences, and evaluation procedures. While course work may be included in a specialization, students may also work to meet learning goals through internships, working with a mentor, successfully completing a proficiency examination or certification examination, or other non-classroom experiences. Courses may come from several departments and involve faculty from several disciplines.

Courses taken to complete a specialization may also fit elsewhere in a student's program of study.

Students who complete a specialization will have the specialization recorded on their transcript and will receive a certificate of completion.

Disability Accommodation in Business and Industry

This specialization will provide participants with the skills to work effectively within business and industry settings to maximize gainful employment opportunities and productivity for persons with disabilities. Participants will be able to develop, implement and evaluate disability

initiatives and policies, and understand the need to work effectively at all levels of business and industry in order to provide optimal accommodations for persons with disabilities.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
Students will be able to:		
1. Identify principles and concepts of organizational structure, leadership styles, and corporate culture that impact the employment of people with disabilities in business and industry.	INMG-400/600 Organizational Leadership	Students must achieve a "C" or better in all required courses to become specialized.
	REHAB-462/662 Management of Employees with Disabilities	
	PSYC-382/582 Human Resource Management	
2. Describe the roles of a rehabilitation professional when providing employer-based disability services, which includes working at all levels of business and industry from a team perspective.	REHAB-360/560 Assistive Technology	*Employer Analysis In order to develop an understanding of business and industry and the roles of a rehabilitation professional who provides disability services in business and industry, an integral component of the specialization is an in vivo exposure to a business environment that will provide an internal perspective. The student/employer interaction will be culminated by an APA style paper to include a general overview of the company, a review of the company's experience with disability, an analysis of policies and procedures specific to disability related problems and risks, a review of previous interactions with rehabilitation professionals and consultants, identification of the primary barriers to cost containment and facilitating effective management of disabilities, and recommendations for future service delivery emphasizing the potential role(s) of the rehabilitation professional. Evaluation for the employer analysis exercise: oral presentation and faculty review of and approval of the final report.
	REHAB-462/662 Management of Employees with Disabilities	
	REHAB-460/660 Rehabilitation in the Private Sector	
3. Demonstrate attitudes and skills needed to solve unique problems of workers with disabilities, including the issues of return-to-work.	REHAB-360/560 Assistive Technology	
	REHAB-462/662 Management of Employees with Disabilities	
	REHAB-460/660 Rehabilitation in the Private Sector	
	REHAB-7XX Field Study or	
	REHAB-480 Advanced Practicum or	
4. Recognize the need to address the concerns, needs, and fears of employers in hiring and employing people with disabilities.	REHAB-XXX Cooperative Education	
	RC-387/587 Human Factors Engineering/Ergonomics	
	REHAB-462/662 Management of Employees with Disabilities	
	REHAB-460/660 Rehabilitation in the Private Sector	
	REHAB-7XX Field Study or	
5. Demonstrate the principles of cost containment in disability management including workplace safety, ergonomics, employee assistance programs, and disability prevention.	REHAB-480 Advanced Practicum or	
	REHAB-XXX Cooperative Education	
	RC-381/581 Principles of Occupational Safety and Loss	
	RC-387/587 Human Factors Engineering/Ergonomics	
	REHAB-462/662 Management of Employees with Disabilities	
6. Explain pertinent laws and legislative initiatives as well as relevant insurance regulations and their impact on business and industry.	REHAB-7XX Field Study or	
	REHAB-480 Advanced Practicum or	
7. Analyze company's policies and procedures specific to disability-related problems and risks including identification of the primary barriers to cost containment.	REHAB-XXX Cooperative Education	
	REHAB-7XX Field Study or	
	REHAB-480 Advanced Practicum or	
	REHAB-XXX Cooperative Education	

Digital Photography

This specialization pulls together several courses into a coherent cluster of learning activities which emphasize the digital aspect of photography to serve both on-campus students and the needs for continuing professional education.

With elimination of wet darkrooms associated with conventional photography, many organizations are bringing photographic services

in-house using electronic systems. Digital photography is marketed as being foolproof, but the task of obtaining, manipulating, and presenting quality images remains daunting. People need to be trained in this new technology as part of their continuing professional education.

The addition of digital photography to your professional preparation can provide an important competitive edge.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1.0 Demonstrate understanding and application of the technical aspects of digital image acquisition 1.1 Demonstrate understanding of photographic exposure 1.2 Demonstrate understanding of the principle of reciprocity 1.3 Demonstrate understanding of depth-of-field 1.4 Demonstrate understanding of image resolution 1.5 Demonstrate ability to scan using both flatbed and film scanners 1.6 Demonstrate understanding of file type. 1.7 Demonstrate knowledge of strengths of various films and digital inputs.	MEDIA-204 Exploring Photography..... 3 MEDIA 405/605 Advanced Photography 3 MEDIA 450/650 Digital Photography 3	Objective and subjective tests, work sample analysis, behavioral observation.
2.0 Demonstrate understanding and application of the technical aspects of digital image manipulation using industry accepted software and procedures.	MEDIA 450/650 Digital Photography 3	Objective and subjective tests, work sample analysis, behavioral observation.
3.0 Demonstrate the effective use of photographic lighting for a variety of subjects and situations 3.1 Demonstrating studio lighting for still-life, portraiture, and the like 3.2 Demonstrate location lighting 3.3 Demonstrate safety precautions when using lighting systems. 3.4 Demonstrate ability to do photography in the non-visible spectrum 3.5 Demonstrate ability to balance mixed light sources.	MEDIA 405/605 Advanced Photography 3 MEDIA 430/630 Digital Audio and Video Production Fundamentals 3 MEDIA 410/610 Product Photography 3	Objective and subjective tests, work sample analysis, behavioral observation.
4.0 Describe and evaluate legal issues involving such topics as ownership, copyright, contracts, permission or releases, liability and the like.	MEDIA 450/650 Digital Photography 3 MEDIA 430/630 Audio/Video Production 3	Objective and subjective tests, work sample analysis, behavioral observation.
5.0 Develop and maintain a digital image cataloging, storage, and retrieval system.	MEDIA 450/650 Digital Photography 3 MEDIA 430/630 Digital Audio and Video Production Fundamentals 3 MEDIA 410/610 Product Photography 3 MEDIA 405/605 Advanced Photography 3	Objective and subjective tests, work sample analysis, behavioral observation.
6.0 Prepare digital images for presentation via electronic distribution, print display, electronic pre-press, video and other methods.	MEDIA 450/650 Digital Photography 3 MEDIA 405/605 Advanced Photography 3 MEDIA 430/630 Digital Audio and Video Production Fundamentals 3	Objective and subjective tests, work sample analysis, behavioral observation.
7.0 Develop and maintain a digital image cataloging, storage, and retrieval system.	MEDIA 405/605 Advanced Photography 3 MEDIA 430/630 Digital Audio and Video Production Fundamentals 3 MEDIA 410/610 Product Photography 3	Objective and subjective tests, work sample analysis, behavioral observation.
8.0 Identify markets for photographic images.	MEDIA 430/630 Digital Audio and Video Production Fundamentals 3 MEDIA 410/610 Product Photography 3 MEDIA 405/605 Advanced Photography 3	Objective and subjective tests, work sample analysis, behavioral observation.
9.0 Write specifications and identify sources for electronic imaging systems.	MEDIA 430/630 Digital Audio and Video Production Fundamentals 3 MEDIA 410/610 Product Photography 3 MEDIA 405/605 Advanced Photography 3	Objective and subjective tests, work sample analysis, behavioral observation.

Gerontology Certification

The populations of the United States and the world are growing older, precipitating important changes in health and social policies. At present, one in eight Americans are 65 or older. These growing numbers will increase demand for individuals with gerontological skills and knowledge. The Gerontology Certification requires 20 credits, or

equivalent, and includes a required core and practicum through which students study aging as an interactive process of physical, social and psychological forces. Two credits of field experience with aging-related content will be required in the student's own major area of study.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
The following outcomes will be achieved through required courses:		
1. Identify major biological theories of aging.	BIO-125 Biology of Aging 3	Exam, papers, reports 2.0 grade point average
2. Identify and describe the biological changes associated with aging.		
3. Recognize normal and pathological changes that occur in organ systems with age.	HDFL-340/540 Human Development: Aging Person 3 BIO-125 Biology of Aging 3	Exam, papers, reports 2.0 grade point average
4. Comprehend the social, political and economic aspects of aging.	HDFL-340/540 Human Development: Aging Person 3	Exam, papers, reports 2.0 grade point average
5. Recognize and discard stereotypes associated with aging.		
6. Work in direct or indirect service to the older population.	Field Experience	Evaluation of field experience
The following outcomes may be achieved through the student's selection of elective courses:		
7. Understand lifespan concept of development and demonstrate an integrated knowledge of the aging individual within the context of family.	HDFL-255 Lifespan Human Development..... 3	Exam, papers, reports 2.0 grade point average
8. Understand the reciprocal nature of family caregiving.	HDFL-341/541 Family Caregiving to Dependent Elders..... 1	Exam, papers, reports 2.0 grade point average
9. Understand the process of grief for older adults.	HDFL-425/625 Death Education and Counseling in Families 2	Exam, papers, reports 2.0 grade point average
10. Recognize personal and cultural attitudes toward death.	HDFL-351 Death and the Family..... 1	Exam, papers, reports 2.0 grade point average
11. Identify and understand the ethical issues related to health care for the elderly.	HDFL-345/545 Health Care Dilemmas and Decisions for Families 2	Exam, papers, reports 2.0 grade point average
12. Demonstrate ability to plan and develop nutritious meals and programs for older individuals which take into account physical and financial limitations.	FN-405/605 Nutrition for the Aged..... 2	Exam, papers, reports 2.0 grade point average
13. Assist aging individuals, especially those with physical limitations, to find suitable and aesthetically pleasing clothing. Understand the product needs of older consumers and the promotional strategies used to market to this population.	BURL-335/535 Topics: Minorities and Aging Consumers..... 2	Exam, papers, reports 2.0 grade point average
14. Understand counseling approaches and techniques for working with aging families in order to construct models for counseling older individuals and their families.	COUN-494/694 Counseling the Older Person..... 2-3	Exam, papers, reports 2.0 grade point average
15. Assist older individuals and their families with financial planning.	HT-488 Financial Planning for Retirement 2	Exam, papers, reports 2.0 grade point average
16. Identify the effects of exercise upon an older individual.	HLTH-365 Physiology of Exercise..... 3	Exam, papers, reports 2.0 grade point average
17. Explain the psychological and physiological dimensions and impact of disability from a developmental perspective.	BIO-220 Physiology of Disabilities 3 REHAB-230 Psychosocial Aspects of Disability..... 3 REHAB-682 Sexuality and Disability 2	Exam, papers, reports 2.0 grade point average
18. Identify needs and difficulties unique to older disabled workers.	REHAB-355/555 Rehabilitation of the Older Disabled Worker 2	Exam, papers, reports 2.0 grade point average
19. Identify formal support systems available to older persons with special needs or national, state and local needs.	REHAB-458/658 Rehabilitation Support System Networking..... 2	Exam, papers, reports 2.0 grade point average
20. Explain various understandings of the meaning of aging as portrayed in literature.	LIT-450 Aging in Literature..... 3	Exam, papers, reports 2.0 grade point average
21. Identify architectural barriers confronted by the disabled traveler.	HT-360/560 Hospitality and the Handicapped Traveler 1	Exam, papers, reports 2.0 grade point average
22. Understand the range of technological options available to assist frail and/or disabled elderly.	REHAB-360/560 Assistive Technology 2	Exam, papers, reports 2.0 grade point average
23. Identify and describe absorption and metabolism of medications in the elderly.	BIO-358 Introduction to Pharmacology 2	Exam, papers, reports 2.0 grade point average

Golf Enterprise Management

This specialization will prepare students for careers in the management of golf operations. Students will demonstrate their knowledge and skills through applied activities and assessment of theoretical principles, benefiting from the “hands on, minds on” approach to learning. The specialization will enhance degree programs in General Business Administration; Hotel, Restaurant and Tourism Management; and Service

Management as well as the professional careers of persons seeking employment in the golf industry. This specialization is supported by the golf industry to address the need for employees with knowledge of the industry and the skills required to manage the many aspects of a golf-related business.

Requirements for the Specialization

18-22 credits required.

Intended Outcome	Learning Activity	Evaluation
Students will be able to:		
Required courses: 9-12 credits		
1. Understand major trends in the golf industry, including tourism, consumer interests, course ownership and management, and golf retail business.	SVRM-101 Introduction to Golf Enterprise Management 1 SRVM-XXX Principles of Golf Enterprise Management..... 3	Successful completion of required courses with a grade of “C” or better.
2. Distinguish missions of principal national and international associations in the golf industry.	SVRM-101 Introduction to Golf Enterprise Management 1	
3. Understand golf facility operations from perspectives of resort, private, municipal, and daily fees courses.	SRVM-XXX Principles of Golf Enterprise Management..... 3	
4. Understand basic business principles as applicable to golf enterprise management.	SRVM-XXX Principles of Golf Enterprise Management 3	
5. Understand issues and strategies for developing new customers and retention of past customers of golf operations.	PE-XXX GEM Customer Development and Retention 3	
6. Develop basic golf skills.	PE-129 Golf 1	
7. Integrate the knowledge and skills obtained in the courses in the Golf Enterprise Management specialization through a practical experience in the golf industry.	XXX-XXX Co-op or field experience in a golf enterprise venue 1-4	
Based upon the selective courses chosen the student will be able to:		
Selective courses: 9-13 credits		
8. Explain the concepts of raising, allocating and controlling capital for business entities; analyze the income tax system and its relevance with business decisions; analyze financial data to make investment decisions.	BUACT-340 Business Finance 3	Successful completion of selective courses with a grade of “C” or better.
9. Develop a business plan that addresses the strategies required to start a small business including legal and financial aspects.	BUMGT-480 Entrepreneurship: Small Business Planning..... 3	
10. Demonstrate an understanding of the retail, wholesale, advertising, channels of distribution from perspectives of manufacturer to customer.	BUMKG- 330 Principles of Marketing 3	
11. Analyze the retailing process, the environment within which it operates, and the institutions and functions that are performed.	BURL-127 Basic Merchandising 3	
12. Integrate the principles of golf resort planning and operation from the aspects of the resort concept, master planning, environmental impact, facility design, maintenance and operational management.	HT-330 Resort Planning and Operation 3	
13. Evaluate diversified natural and man-made background tourism elements (BTE) and the preservation and incorporation of these concepts for development of tourism destinations.	HT-340 Development of Tourism Attractions 3	



Intended Outcome	Learning Activity	Evaluation
14. Understand management of golf club operations from perspectives of customer service for membership, personnel, marketing, and financing.	HT-352 Club Management 3	
15. Evaluate the factors involved in developing and managing a golf property including the feasibility, financing, appraisal, leases, purchase agreements and management contracts.	HT-371 Commercial/Residential Property Development and Management 3	
16. Develop interpersonal communication attitudes and skills for effective business practices.	PSYC-370 Interpersonal Effectiveness Training 2	
17. Understand consumer behavior from the perspectives of psychological theories and principles.	PSYC-377 Consumer Psychology 3	
18. Understand basic public relations strategies for community, employee, customer, and media applications.	PSYC-379 Public Relations 2	
19. Understand theories and techniques for effective management of personnel.	PSYC-382 Human Resource Management 3	
20. Examine the environment in which service operations such as golf operate from the perspective of both the customer and operations management.	INMGT-210 Service Operations Management 3	
21. Analyze the service management strategies used in the golf industry as contrasted with other economic sectors.	SRVM-354 Service Marketing Management 3	
22. Evaluate how national and cultural constraints and expectations impact planning, execution, and evaluation of service quality in the golf industry.	SRVM-420 International Service Concepts 3	

Health Science Occupations Education

This specialization meets the Department of Public Instruction Health Science Occupations-911 certification, a new certification developed to lessen workforce shortages in the health care industry. Students must be currently certified teachers in family and consumer education,

health education, or life and environmental science education in the state of Wisconsin, or student must be enrolled in related career and technical education programs. Courses are offered online. The field experience will take place in a health care facility.

Requirements for the Specialization

12 credits required

Intended Outcome	Learning Activity	Evaluation
Demonstrate knowledge, understanding, and competence in the following:		
1. The demands and responsibilities of working in a health care facility	CTE-398/598 Field Experience..... 1-2 CTE-310/510 Foundations of Health Science Occupations Education..... 3	Successful completion of courses is required. Artifacts for the professional portfolio are identified on course outlines.
2. National Health Care Skill Standards	CTE-310/510 Foundations of Health Science Occupations Education..... 3 CTE-320/520 Careers in Health Care 3	Successful completion of courses is required. Artifacts for the professional portfolio are identified on course outlines.
3. Curriculum planning in health science occupations	CTE-330/530 Curriculum Planning in Health Science Occupations 3	Successful completion of course is required. Artifacts for the professional portfolio are identified on course outline.
4. Organizational structure and administration of health care and role of health care professionals	CTE-310/510 Foundations of Health Science Occupations Education..... 3	Successful completion of course is required. Artifacts for the professional portfolio are identified on course outline.
5. Student career development	CTE-320/520 Careers in Health Care 3	Successful completion of course is required. Artifacts for the professional portfolio are identified on course outline.
6. Organization and supervision of work-based learning	CTE-360/560 Cooperative Occupational Education Programs 2	Successful completion of course is required. Artifacts for the professional portfolio are identified on course outline.

International Studies

As the world moves toward the 21st century, people in all countries and cultures are increasingly interacting with each other. Many UW-Stout graduates find work in multinational businesses and international tourism. Others go into the Peace Corps or other types of international volunteer work. Many more use their leisure time for travel or study abroad. Even those who never venture abroad find their professional, civic and personal lives impacted by the expansion of international relationships.

The International Studies specialization at UW-Stout is flexibly designed to offer students an opportunity to better understand other cultures and international relationships, and to compete more successfully in the workplace. The specialization requires all students to complete six core courses or their equivalents, then select an option that best meets their interests and needs.

All students in the specialization are strongly encouraged to plan work or study experience abroad.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1.0 Demonstrate an understanding of international relations. 1.1 Show an understanding of concepts used to analyze international relations. 1.2 Identify participants and patterns of international relationships. 1.3 Identify and analyze global problems arising from international relations.	POLS-340 International Relations 3	Exams, papers and reports – 2.0 grade point average.
2.0 Demonstrate an understanding of cultural variation and analysis, or demonstrate an understanding of the modern world within its historical context. 2.1 Show an understanding of concepts used to analyze cultural variation or develop an introductory knowledge of the modern world based on its historical antecedents. 2.2 Identify and begin to understand the complexity of cultural and political variations that exist in the world. 2.3 Demonstrate a cross-cultural approach to analyzing international problems.	ANTH-220 Introduction to Cultural Anthropology or HIST-210 Modern World 3	Exams, papers and reports – 2.0 grade point average.
3.0 Demonstrate an understanding of the geography and peoples of the world. 3.1 Illustrate an understanding of geographical concepts. 3.2 Identify the major components of the physical setting in which cultures exist and international relations occur. 3.3 Identify and analyze the relationships between the physical world, on the one hand, and cultural variation and international relations on the other.	GEOG-104 World Geography..... 3	Exams, papers and reports – 2.0 grade point average.
4.0 Demonstrate an introductory knowledge of a second language.	XXX-XXX Language Studies 8 Equivalent of 8 credits of college-level study of one foreign language. High school language study may count towards this requirement. (<i>International students consult with specialization adviser.</i>)	<i>For Language Studies, certification of proficiencies may be obtained from the language faculty.</i>
5.0 Demonstrate an introductory knowledge of the history, culture and/or social institutions of a country or region other than one's own.	XXX-XXX Area Studies 2-3 (<i>See specialization advisor for a list of acceptable courses focusing on one country or cultural region of the world.</i>)	Exams, papers and reports – 2.0 grade point average.
6.0 Demonstrate an introductory knowledge of intercultural communications.	SPCOM-312 Intercultural Communication or BUIINB-346 Intercultural Business Interactions..... 2-3	Exams, papers and reports – 2.0 grade point average.
7.0 Demonstrate the integration of knowledge with experience in another country or culture. 7.1 Study or work in another culture. 7.2 Show an appreciation of the diversity in cultural values from culture to culture. 7.3 Demonstrate an integration of intercultural experiences with other knowledge about international relations.	XXX-XXX Study Abroad/International Field Experience or Co-op or Internship 1-2 (<i>Approved Independent Study/Practical International Experience.</i>)	Exams, papers and reports – 2.0 grade point average.

Specialized Learning Objectives	Learning Activity	Evaluation
Option 1: International Business		
1.1.0 Demonstrate an understanding of international business practices.	<i>Select 9 credits from the following:</i>	Exams, papers and reports – 2.0 grade point average.
1.1.1.1 Demonstrate an understanding of international trade, development, marketing, finance business law, management and/or transportation.	BUINB-260 Introduction to International Business (<i>required</i>)..... 3 ECON-480 International Economics..... 3 BUINB-338 International Logistics..... 3 BUINB-485 International Marketing..... 3 BUINB-489 International Business Policies 3 BUINB-488 International Business Practicum..... 3 BUINB-367 International Management 3	
Option 2: International Tourism		
2.1.0 Demonstrate a knowledge of the international components of the tourism industry.	<i>Select 7-9 credits from the following:</i>	Exams, papers and reports – 2.0 grade point average.
2.1.1.1 Identify the economic role of tourism in a global economy.	HT-140 Introduction to Tourism 2	
2.1.1.2 Identify the role of government in planning/development of tourism.	HT-341 Geography of Tourism 3	
2.1.1.3 Analyze current issues related to international tourism.	HT-440 Sociocultural System of Tourism 3	
2.1.1.4 Analyze/become familiar with hospitality and tourism publications.	HT-481 Special Problems in Hospitality and Tourism 1-3	
2.2.0 Assess quality and quantity of selected tourism resources throughout the world.		
2.2.1.1 Analyze spatial patterns of connection, circulation, interaction, transportation and communication associated with the geography of tourism.		
2.2.1.2 Analyze international tourism's locational trends.		
2.2.1.3 Illustrate world map reading skills related in tourism		
2.3.0 Analyze current tourism topics.		
Option 3: Language Studies		
3.1.0 Demonstrate the ability to communicate in a second language.	<i>Select 16 credits from the following: (8 additional credits in the same language as the core requirement.) Equivalent of two years of college-level study in the same foreign language.</i>	Exams, papers and reports – 2.0 grade point average.
Option 4: Area Studies		
4.1.0 Demonstrate an understanding of the history, cultural background and social institutions of a culture, country or region other than one's own.	<i>Select 8-9 credits in addition to the core area studies requirement: Specialization adviser-approved courses focusing on one country, one ethnic/cultural group or cultural region of the world. (For example, the following courses could serve as an "area studies" grouping: HMON-121 and -122 Practical Hmong I and II; SOC-350 Sociology of the Hmong; and ANTH-240 Hmong Studies and Contemporary Life. These courses would total 8 credits.)</i>	Exams, papers and reports – 2.0 grade point average.
Option 5: International Education		
5.1.0 Illustrate an understanding of the sociopolitical elements of education in a global context.	<i>Select 8-9 credits from the following:</i>	Exams, papers and reports – 2.0 grade point average.
5.2.0 Demonstrate an understanding of the role of education in building a community of learners for a shared global future.	EDUC-336 Multiculturalism: Issues and Perspectives 2	
5.3.0 Show a receptivity to multicultural perspectives.	EDUC-376 Field Experience: Cross-Cultural Experience 1	
5.4.0 Demonstrate an awareness and understanding of the global condition and of global developments and trends.	EDUC-302 Global Perspectives for Educators..... 3	
	EDUC-400 ESL for Regular Classroom Educators 2	
	REHAB-305 Sign Language I 3	
	REHAB-306 Sign Language II 3	
	XXX-XXX Foreign language taken at Stout (<i>FREN, GER, HMON, SPAN</i>) or other foreign languages transferred in..... 2-4	
	LIT-273 American Multicultural Literature 3	
	PHIL-220 Multicultural Philosophy 3	
	BUINB-260 Introduction to International Business..... 3	
	SOC-375 Sociology of Minority Groups..... 3	
	XXX-XXX Student teaching, co-op, field experience or independent study..... 3-4	
Option 6: Apparel Design and Development; Retailing		
6.1.0 Demonstrate an understanding of international economic trends influencing textiles and apparel-related areas.	<i>Select 9-12 credits from the following:</i>	Exams, papers and reports – 2.0 grade point average.
6.2.0 Illustrate an understanding of international historical influences on present day fashion	BURTL-319 International Economic Trends in Textiles and Clothing..... 3	
6.3.0 Analyze international sourcing and marketing strategies for apparel products and manufacturing.	APRL-410 History of Costume-Ancient to European..... 3	
6.4.0 Demonstrate an understanding of international business practices through formal course work.	APRL-211 History of Fashion_19th Century to Present 3	
	BURTL-417 Social/Psychological Aspects of Clothing..... 3	
	APRL-405 International Study Tour of the Fashion Industry..... 1-6	
	BUINB-260 Introduction to International Business..... 3	
	BUINB-367 International Management 3	
	BUINB-485 International Marketing..... 3	

Professional Writing

The Professional Writing specialization addresses an area of critical importance – clearly communicating information. The program is intended for those who wish to gain professional writing skills to help them find employment, and those who wish to improve their writing

skills to gain promotions or explore new career directions. Graduates of this program will be able to clarify technical concepts for a wide range of audiences, especially non-technical ones.

Requirements for the Specialization

18 credits required. No courses may be used to fulfill two objectives.

Intended Outcome	Learning Activity	Evaluation
1. Interact with clients in order to produce their documents.	<p><i>Follow a sequence of activities, under supervision, to produce a document, starting with an initial interview and progressing to a final document. Take one course.</i></p> <p>ENGL-X49 Cooperative Education Program in Arts and Sciences 3</p> <p>ENGL-437 Technical Writing Practicum 3</p>	<p>1. Review of completed documents by teacher.</p> <p>2. Acceptance of document by client.</p> <p>3. Client evaluation of writer as having adequately performed at all stages in the sequence–use questionnaire.</p>
2. Design documents for effective arrangement of page elements. Learn basic principles of document design.	<p><i>Under supervision of a teacher, determine design needs of particular documents and produce the documents. Take one course.</i></p> <p>ENGL-435 Writing Technical Manuals 3</p> <p>ENGL-XXX Document Design 3</p>	<p>1. Review of completed design by teacher.</p>
3. Use various strategies to research information in depth.	<p><i>Structured sequence of activities that teach students the strategies to use in order to find and evaluate material to use in documents. Take one course.</i></p> <p>ENGL-346 Research Reporting 3</p> <p>ENGL-207 Writing for the Media..... 3</p>	<p>1. Evaluation of writing by teacher–oral, exercises.</p> <p>2. Presentation of final document by writer.</p> <p>3. Teacher evaluation of adequate performance at all stages in the sequence–observations.</p>
4. Adapt, direct and produce information for a particular audience.	<p><i>Structured sequence of activities that train students in concepts of audience adaptation and develop flexibility in adapting to audience. Take one course.</i></p> <p>ENGL-320 Business Writing..... 3</p> <p>ENGL-343 Rhetoric of Technology..... 3</p> <p>ENGL-361 Hypertext Writing 3</p> <p>ENGL-371 Advanced Rhetoric 3</p> <p>ENGL-388 Writing Multimedia 3</p> <p>ENGL-415 Technical Writing..... 3</p>	<p>1. Teacher evaluation that student has conceptual knowledge of adapting for an audience–tests, exercises.</p> <p>2. Teacher evaluation that student has flexibility in adapting for an audience–exercises.</p>
5. Organize and present written material in a clear, concise manner.	<p><i>Structured sequence of activities that train students in organizing for a particular audience situation. Take one course.</i></p> <p>ENGL-245 Creative Writing..... 3</p> <p>ENGL-247 Critical Writing..... 3</p> <p>ENGL-361 Hypertext Writing 3</p> <p>ENGL-388 Writing Multimedia 3</p>	<p>1. Teacher evaluation that student has acceptable conceptual knowledge of organization and concise presentation– exercises.</p> <p>2. Teacher evaluation that student has flexibility in presenting different organizations–exercises.</p>
6. Produce information according to business and industry standards of	<p><i>Structured sequence of activities that train students in style concepts and flexibility. Take one course.</i></p> <p>ENGL-225 Copy Editing and Preparation 3</p> <p>ENGL-340 Structure of English 3</p>	<p>1. Teacher evaluation that student has acceptable level of conceptual knowledge of style–tests, exercises.</p> <p>2. Teacher evaluation that student has acceptable style flexibility–exercises.</p>

Public Relations/Public Information

This specialization is a suitable support program for undergraduate students enrolled in any program the university offers. Virtually every area of professional preparation can benefit from the study of public relations/public information. Institutions and organizations are increasingly aware of the need for sound management practices when dealing with publics and the value of those practices to society.

If UW-Stout students are to achieve their professional goals, they must be competent in developing relationships with many different organizations and understanding the attitudes and values represented by those organizations. Students completing this specialization would be better able to utilize professional communication skills, play an

integrative role in organizational management, assist in the definition and implementation of policy, and represent the organization's rights and responsibilities to the various publics.

Students should apply for the specialization one year before completing the requirements for it. To be admitted to the specialization, a student must have completed 12 credits in the behavioral and/or social sciences and six credits in business or business-related course work.

The specialization will be awarded to the student once all course work required for it has been completed and a minimum 3.0 grade point average has been earned in those courses.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1. Anticipate and identify public opinion.	Complete the following courses: PSYC-377 Consumer Psychology 3 PSYC-379 Public Relations 2	Demonstrate recognition and comprehension of public opinion through minimum 2.75 grade point average on course expectation.
2. Interpret and communicate public opinions' effect on the plans and operations of an organization.	Complete the following courses: PSYC-377 Consumer Psychology 3 PSYC-379 Public Relations 2	Demonstrate the ability to assess the effect of public opinion on organizations through minimum 2.75 grade point average on course expectation.
3. Recognize socially responsible behavior on the part of organizations.	Complete the following courses: PHIL-275 Personal and Professional Ethics 3 PSYC-377 Consumer Psychology 3 PSYC-379 Public Relations 2	Demonstrate ability to identify organizational behavior that is socially responsible through minimum 2.75 grade point average on course expectation.
4. Anticipate public reaction to organization's policy decisions and courses of action.	Complete the following courses: SPCOM-200 Persuasive Speaking 2 PSYC-479 Advanced Public Relations 2	Demonstrate awareness of public reaction to organizational activity through minimum 2.75 grade point average on course expectation.
5. Enhance the organizational image through advice to management.	Complete the following courses: SPCOM-200 Persuasive Speaking 2 PSYC-479 Advanced Public Relations 2	Demonstrate talent to provide sound advice regarding organizational image through minimum 2.75 grade point average on course expectation.
6. Design and conduct organizational audits (using approved public relations research techniques).	Work on problem-based projects from the following: PSYC-379 Public Relations 2 PSYC-479 Advanced Public Relations 2 PSYC-493 Field Practicum in Public Relations Specialization 1-3	Provide evidence of ability to develop tools for assessment and investigation of external and internal publics.
7. Compile and analyze data.	Work on problem-based projects from the following: PSYC-379 Public Relations 2 PSYC-479 Advanced Public Relations 2 PSYC-493 Field Practicum in Public Relations Specialization 1-3	Demonstrate comprehensive analysis through reports and presentations.
8. Set objectives, plan and budget resources for public relations/public information activities.	Complete the following courses: PSYC-479 Advanced Public Relations 2 PSYC-493 Field Practicum in Public Relations Specialization 1-3	Provide evidence of ability to set program goals and objectives and develop program budget.
9. Develop program strategies.	Complete the following courses: TCS-103 Communication and Information Technology 3 ENGL-246 Informational Writing 3 PSYC-479 Advanced Public Relations 2	Demonstrate ability to select appropriate audience, messages and media to carry out program goals and objectives through reports from field supervisors.
10. Implement campaigns to influence organizational goals.	Complete the following courses: TCS-103 Communication and Information Technology 3 ENGL-246 Informational Writing 3 PSYC-479 Advanced Public Relations 2	Demonstrate ability to accomplish campaigns/programs through reports from field supervisors.
11. Evaluate public relations/public information programs.	Work on problem-based projects from the following: PSYC-379 Public Relations 2 PSYC-479 Advanced Public Relations 2 PSYC-XXX Practicum Experience 1-3	Provide evidence of campaign/program success or failure through examination and evaluation of actual outcomes.

Spanish

Spanish is a practical skill as well as an academic and aesthetic domain. The Spanish speaking population of the United States needs to be served through communication about practical needs as well as through cultural appreciation.

The Specialization in Spanish consists of the four communication skills basic to learning another language: listening, speaking, reading and writing, as well as experience in and study of cross-cultural issues, appreciation of a variety of fine arts and literary genres, and practical knowledge of the Spanish language applied to work and other life situations.

The program is suitable for non-traditional students because it builds upon knowledge they may have acquired through personal experience or in the classroom. The recommended activities for this specialization include courses which are ideal for "brushing up," and are designed so that material will be varied when students take the courses more than once. The specialization can be completed in one year, not considering the field experience, if the student has sufficient background in Spanish, so it is a good credential to combine with a graduate program or to complement a diploma from another university.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1. Use general vocabulary to speak Spanish about topics of common or personal interest.	<p>Complete the following courses:</p> <p>SPAN-103 Elementary Spanish or SPAN-121 and -122 Practical Spanish I and II..... 4 SPAN-104 Elementary Spanish II 4 SPAN-201 Intermediate Spanish I 4 SPAN-202 Spanish II 4 SPAN-227 Spanish Conversation and Composition..... 2 SPAN-229 Hispanic Literature in America 2 or other experience</p>	Grade of B or better in a Third Year Spanish Course, or credits for speaking on the Brigham Young exam, ACTFL Intermediate Low rating, or other approved test of spoken Spanish.
2. Understand native speakers talking at average speed.	SPAN-227 Spanish Conversation and Composition, or study abroad	Grade of B or better in Spanish 227, or credits for listening on Brigham Young exam, ACTFL Intermediate Low rating, or other approved test of listening comprehension.
3. Write paragraphs to express a personal point of view.	<p>Complete the following courses:</p> <p>SPAN-103 Elementary Spanish or SPAN-121 and -122 Practical Spanish I and II..... 4 SPAN-104 Elementary Spanish II 4 SPAN-201 Intermediate Spanish I 4 SPAN-202 Spanish II 4 SPAN-227 Spanish Conversation and Composition..... 2 SPAN-229 Hispanic Literature in America 2 or other experience</p>	Grade of B, or better in SPAN-227 Spanish Conversation and Composition, or in SPAN-229 Hispanic Literature in America, or credits for writing paragraphs on Brigham Young exam or other approved writing test.
4. Read authentic journalistic prose or other reports, understanding the general meaning, coping well with grammatical nuances and complexities, and inferring meanings, for most unfamiliar words.	SPAN-201 Intermediate Spanish I and SPAN-227 Spanish Conversation and Composition, or extensive and careful reading of magazines and newspapers.	Grade of B or better in Spanish 227, other Third Year course based on journalistic prose, or departmental examination.
5.1 Recognize and interpret cultural differences in written material and conversational situations.	SPAN-229 Hispanic Literature in America or other Spanish literature course and cross-cultural readings recommended by department	Grade of B or better in Spanish 229 or departmental examination based on cross-cultural readings and applied to conversational dialogues and literary passages.
6. Interact with ease in professional, social and tourist situations where Spanish is the language of communication.	A minimum of two weeks living experience among native speakers of Spanish.	Participate in a videotaped conversation or interview, in Spanish, fifteen minutes or more, with the collaboration of a native speaker or other appropriate individual.
7. Appreciate the usefulness of Spanish in real life situations.	Personally use Spanish in practical situations, interview about ten people who use Spanish in travel or social or work situations.	Ten page report, in English or Spanish, on how Spanish may be used in various professional or life situations.
8. Be able to use Spanish. in the context of one's chosen profession.	Locate books and other documents in Spanish related. to one's major or future work situation.	Portfolio report — two hundred vocabulary words of a highly specialized nature, with explanations or illustrations as necessary, to be approved by faculty.
9. Read and write personal correspondence in Spanish.	Formal Spanish courses, writing letters to friends and/or family members.	Completion of SPAN-227 Spanish Conversation and Composition with a grade of B or better, or presentation of portfolio of ten letters which the candidate has written to real, or imaginary persons.



Intended Outcome	Learning Activity	Evaluation
10. Recognize the importance of aesthetic values in Hispanic life.	SPAN-229 Hispanic Literature in America or other Hispanic culture course, or research on ten Hispanic composers, artists, and/or authors, in consultation with- the faculty.	Grade of B or better in Spanish 229 or other advanced Hispanic culture course, or write an essay based on the results of research, emphasizing aesthetic values and the importance of art in the community.
11. Be familiar with several aesthetic characteristics used in the music, art and literature of Hispanic cultures.	SPAN-201 Intermediate Spanish I and SPAN-229 Hispanic Literature in America, or, listen to Hispanic music, become familiar with examples of Hispanic art and read Hispanic authors, under consultation with faculty.	Completion, with a grade of B or better, of Spanish 201 and 229, or six credits in other courses based primarily on cultural material or presentation, in English or Spanish, of one example each from art, music, and literature, emphasizing unique Hispanic characteristics.
12. Be familiar with some of the most important current, and historical events and situations in Spanish-speaking countries.	SPAN-201 Intermediate, Spanish I, or research from a collection of current and historical readings provided by faculty.	Grade of B or better in Spanish 201, or departmental exam based on recommended reading material.
13. Develop strategies for maintaining and improving language proficiency outside the academic setting.	Experience at least three media appropriate to language maintenance, such as Spanish-language movies or newspapers, audio review tapes or computer programs.	Write a reaction paper on your experience with three different media sources, in consultation with faculty.

Training and Human Resource Development

Education is not the sole province of schools. Programs of instruction are conducted by many businesses, industries, in the military, and by other groups and organizations. Planning and providing this instruction is the province of professionals usually identified as "trainers." In our technological society, training programs have become increasingly complex and demands on trainers have increased. Greater expertise on their part is required. This all-university specialization addresses

needs for preservice and in-service education for trainers.

This program is intended for students who have expertise in areas such as engineering, technology, education, business, government, military and labor, and who desire to become involved in development and implementation of training programs. Contact the Office of the Dean, College of Technology, Engineering and Management for further information.

Requirements for the Specialization

Note: Courses numbered 700 and greater are open to graduate students only.

Intended Outcome	Learning Activity	Evaluation
1. Introduction to concepts of training and human resource development.	TRHRD-360/560 Training Systems in Business and Industry 3 Select one of the following: INMG-400/600 Organizational Leadership or PSYC-382/582 Human Resource Management 3	Successful completion of courses at left (6 credits).
2. Design and develop training activities.	MEDIA-360/560 Introduction to Media in Education and Training..... 2 Complete a course from the appropriate school in curriculum development or course construction (2-3 credits) such as: EDUC-312/512 Introduction to Curriculum, Methods and Assessment..... 2 MEBE-401 Marketing Education Curriculum..... 2-3 VTAE-438/638 Course Construction for Vocational Educators..... 2	Successful completion of courses at left (minimum 4 credits).
3. Implement and facilitate training activities.	Select one of the following: EDUC-312/512 Introduction to Curriculum, Methods and Assessment..... 2 MEBE-301 Marketing Education Methods 3-4 TRHRD-370/570 Training Methods in Business and Industry..... 2 VTAE-405/605 Methods of Teaching Vocational Education..... 2	Successful completion of a course at left (minimum 2 credits).
4. Evaluate the effectiveness of training activities.	VTAE-440/640 Instructional Evaluation in Vocational Education..... 2	Successful completion of the course at left (2 credits).
5. Apply concepts of training in the professional area.	TRHRD-XXX Co-op/Internship in Training 1-8	Successful completion of the contractual agreement of the internship as evaluated by the business, industry, government or military supervisor, and the UW-Stout supervisor. Completion of a field report is required.

Vocational Evaluation/Rehabilitation Technology

The impact of technology has changed assessment and service delivery in the field of rehabilitation. A philosophical shift to a more empowering stance with persons with disabilities has occurred as a result of the evaluation of their skills and abilities and the enhancement of those skills through assistive technology. This specialization educates and

trains vocational rehabilitation professionals and students in skills to meet the needs of people with disabilities, and to provide the services that are being demanded by employers, as well as persons with disabilities for use in the labor market and in accordance with the Americans with Disabilities Act.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
Development of tool modification and accommodation: demonstrate familiarity with and use of testing accommodations or modifications to facilitate the vocational exploration of persons with disabilities through the modification of tests, work samples, job sites and training materials, as appropriate.	"The Use of Assistive Technology" workshop, resulting in a report detailing the use and modification of testing strategies <i>or</i> REHAB-360/560 Assistive Technology 2	Faculty review and approval of report on use and modification of evaluation tools <i>or</i> Grade of "C" or better
Communication of rehabilitation plan objectives and recommendations: demonstrate the ability to incorporate the potential of assistive technology to enhance performance potential in the vocational choices of persons with disabilities.	"The Use of Assistive Technology" workshop, resulting in reports that include recommendations for the use of assistive technology <i>or</i> REHAB-360/560 Assistive Technology 2	Faculty review and approval of report on use and modification of evaluation tools <i>or</i> Grade of "C" or better
Vocational rehabilitation process and philosophy: outline and describe philosophical movements associated with vocational rehabilitation in the United States, describe the role of vocational rehabilitation/assessment in a diverse cultural environment, and describe the need that persons with disabilities have to be a part of society, focusing on strengths and assets that people bring with them to any situation.	Research paper describing process and philosophy <i>or</i> Demonstrated work experience of three or more years and professional development credentials <i>or</i> REHAB-101 Introduction to Rehabilitation..... 3	Faculty review and approval of research paper or work experience and professional credentials <i>or</i> Grade of "C" or better
Occupational Information: find and use various sources of national, state and local occupational information; link rehabilitation recommendations to the local labor market of the person being served.	Demonstrate work experience as a job developer or placement specialist of two or more years <i>or</i> "Job Development and Placement and Occupational Information" workshop resulting in appropriate work recommendations in a written report <i>or</i> REHAB-310 Vocational Evaluation <i>or</i> REHAB-410 Job Placement..... 3	Faculty review of work experience or faculty review and approval of report recommendations <i>or</i> Grade of "C" or better
Functional aspects of disability: develop knowledge of the functional characteristics of disability and understand the impact of evaluating the skill and abilities of a person with a disability.	Research paper on effect of disabling condition(s) in vocational rehabilitation <i>or</i> Test out with faculty-developed standardized test <i>or</i> REHAB-230 Psychosocial Aspects of Disability..... 3	Faculty review and approval of research paper <i>or</i> 80 percent or better on the standardized test <i>or</i> Grade of "C" or better
Individualized vocational rehabilitation/evaluation planning: identify and delineate the individual needs of a person with a disability; state those needs in a plan for testing skills and abilities in relation to the accomplishment of a task or goal.	"Rehabilitation Planning" workshop resulting in written vocational rehabilitation plan <i>or</i> Work experience of two or more years, one letter of reference from a supervisor, three letters of reference from professional referral sources, and five letters of reference from consumers of services <i>or</i> REHAB-310 Vocational Evaluation 3	Faculty review and approval of written rehabilitation plan of three separate case studies provided during workshop <i>or</i> Faculty review and approval of work experience and letters of reference <i>or</i> Grade of "C" or better
Vocational interviewing: demonstrate the development of rapport, provision of agency and assessment information, initial identification of client strengths and limitations through the vocational interview; and create an understanding of the process of vocational rehabilitation through the vocational interview.	"Vocational Interviewing and Facilitating Career Decision Making with Clients" workshop resulting in the videotaping of a vocational interview <i>or</i> Demonstrate evidence of past work experience as a vocational counselor for two or more years <i>or</i> Complete college level course work in vocational interviewing	Faculty review and approval of videotaped vocational interview <i>or</i> Faculty review and approval of work experience <i>or</i> Faculty review and approval of college level course work
Vocational report development and communication: interpret, analyze, and synthesize participant data in a coherent and concise manner that addresses needs, strengths, and assets of the participant and develops pertinent recommendations through a report shared orally and in writing with the participant/client and referral source/rehabilitation counselor.	"Vocational Rehabilitation Report Development and Communication" workshop <i>or</i> Four written reports addressing needs of four case studies presented during the workshop <i>or</i> REHAB-310 Vocational Evaluation 3	Faculty review and approval of the written report options and letters of reference <i>or</i> Grade of "C" or better



Intended Outcome	Learning Activity	Evaluation
Standardized testing: become familiar with the procedures for administering and interpreting standardized tests and application of tests to persons with disabilities, understand the impact of the disabling condition and the use of the most appropriate test, and develop a report explaining the impact of testing and using results with a vocational rehabilitation report.	Previous college course work in the use of psychometric testing and principles of validity and reliability <i>or</i> “Standardized Testing” workshop and paper describing use of standardized tests with persons with disabilities <i>or</i> Past work experience of two years or more where responsibilities include administering and interpreting standardized tests with a supervisor’s letter and at least one referral source/rehabilitation counselor <i>or</i> REHAB-420/620 Psychological Testing – People with Exceptional Need 3	Faculty review and approval of previous course work <i>or</i> Faculty review and approval of workshop paper <i>or</i> Faculty review and approval of work experience and letters of recommendation <i>or</i> Grade of “C” or better
Job and Training Analysis: perform a job analysis and develop a training analysis on a given job and do a written report; use the job analysis to determine the most appropriate evaluation tools to use with a person with a disability to measure performance ability; determine appropriate training or education to prepare for the job.	Read <i>A Guide to Job Analysis</i> or <i>The Revised Handbook for Analyzing Jobs</i> , participate in an online discussion of the materials and procedures of job analysis, select a job in the community that reflects occupational choices of agency participants, prepare a job analysis report, select and describe evaluation tools most appropriate for someone interested in the occupation <i>or</i> REHAB-410 Job Placement..... 3	Faculty review and approval of the job and training analysis report and online discussion <i>or</i> Grade of “C” or better
Functional Skills: use appropriate tools and strategies to evaluate the functional daily living skills of an individual with a disability, select appropriate method to determine level of functional skill, develop and use situational assessment to establish an understanding of the individual functional skills of a person with a disability.	“Functional Skills Assessment” workshop and report <i>or</i> Demonstrate evidence of past work experience of two or more years involving vocational evaluation/ functional skills assessment and/or situational assessment with two letters of reference from referral sources <i>or</i> REHAB-470/670 Work Adjustment Services 3	Faculty review and approval of report <i>or</i> Faculty review and approval of work experience and letters of reference <i>or</i> Grade of “C” or better
Assessment of Learning: demonstrate awareness of learning styles and modalities of teaching through use of selected tests, modify test administration to the demands of the learning/teaching situation.	Previous college-level course work in educational psychology, special education, adult or vocational education that address issues of learning and learning styles and use of learning assessments <i>or</i> Paper describing learning styles and assessment of such styles, with assessment tool selection and modification	Faculty review and approval of course work <i>or</i> Faculty review and approval of paper
Work samples and work sample systems: demonstrate appropriate use of work samples and work sample systems as means of assessment within a given occupation, demonstrate appropriate use of work samples and systems with different types of disabling conditions.	“Work Sample and Work Sample Systems” workshop and research paper <i>or</i> REHAB-310 Vocational Evaluation 3	Faculty review and approval of research paper <i>or</i> Grade of “C” or better
Behavioral Observation: observe and note behaviors of individuals during the assessment process as asset or limitation behaviors in relation to the accomplishment of a target goal.	Read appropriate, assigned material and develop a written behavior observation of five clients where observations were critiqued by at least two other professionals, including the referring counselor <i>or</i> Demonstrate evidence of work experience in vocational rehabilitation/evaluation where duties included writing and/or noting behavioral observations, with a letter from a supervisor and two from referral sources attesting to accuracy and usability of the written behavioral observations, including examples of written behavioral observations	Faculty review and approval of observations, critiques and reports <i>or</i> Faculty review and approval of work experience, letters of reference, and examples of written behavioral observations

Professional Development Certificates

Introduction

UW-Stout offers "professional development certificate" programs in addition to its traditional majors and minors to meet the needs of those who wish to obtain additional knowledge and skills needed for personal growth and professional advancement.

While not a substitute for a degree or diploma, the certificate is an alternative credential for individuals seeking to obtain new knowledge and skills or to update their knowledge and skills in a specific area.

Typically, a certificate is earned by completing a set of limited, well defined learning outcomes focused on new or emerging processes or new knowledge and principles applied to practical problems or issues.

These course sets lead to a certificate only. If you're interested in a bachelor's degree, please refer to the degree programs found elsewhere in this bulletin.

Cisco Certified Network Associate Exam Preparation Certificate

The Cisco Certified Network Associate (CCNA) Exam Preparation Certificate prepares students to pass examinations through the use of lecture, online curriculum, and laboratory exercises. In order to earn the certificate, students must pass the following courses and professional exams:

TCS-131	Network operating System Fundamentals	2
TCS-141	Networking Fundamentals I	2
TCS-142	Networking Fundamentals II	2
TCS-143	Networking Fundamentals III	2
TCS-144	Networking Fundamentals IV	2
Exam: Cisco CCNA		

For more information: Steve Schlough, schloughs@uwstout.edu , 715/232-1484

Cisco Certified Design Associate Exam Preparation Certificate

The Cisco Certified Design Associate (CCDA) Exam Preparation Certificate prepares students to pass examinations through the use of lecture, online curriculum, and laboratory exercises. In order to earn the certificate, students must pass the following courses and professional exams:

TCS-131	Network operating System Fundamentals	2
TCS-141	Networking Fundamentals I	2
TCS-142	Networking Fundamentals II	2
TCS-143	Networking Fundamentals III	2
TCS-144	Networking Fundamentals IV	2
Exam: Cisco CCNA		
TCS-382/582	Network System Design	3
Exam: Cisco DCN		

For more information: Steve Schlough, schloughs@uwstout.edu , 715/232-1484

Cisco Certified Network Professional Exam Preparation Certificate

The Cisco Certified Network Professional (CCNP) Exam Preparation Certificate prepares students to pass examinations through the use of lecture, online curriculum, and laboratory exercises. In order to earn the certificate, students must pass the following courses and professional exams:

TCS-441/641	Scalable Internetworks	3
Exam: Cisco Routing		
TCS-442/642	Remote Access Networks	3
Exam: Cisco Remote Access		
TCS-443/643	Multi-Layer Switched Networks	3
Exam: Cisco Switching		
TCS-444/644	Internetwork Troubleshooting	3
Exam: Cisco Support		

For more information: Steve Schlough, schloughs@uwstout.edu , 715/232-1484

Cisco Certified Design Professional Exam Preparation Certificate

The Cisco Certified Design Professional (CCDP) Exam Preparation Certificate prepares students to pass examinations through the use of lecture, online curriculum, and laboratory exercises. In order to earn the certificate, students must pass the following courses and professional exams:

TCS-441/641	Scalable Internetworks	3
Exam: Cisco Routing		
TCS-442/642	Remote Access Networks	3
Exam: Cisco Remote Access		
TCS-443/643	Multi-Layer Switched Networks	3
Exam: Cisco Switching		
TCS-445/645	Internetwork Design	3
Exam: Cisco Design		

For more information: Steve Schlough, schloughs@uwstout.edu , 715/232-1484

Creative Writing

The Creative Writing Certificate provides participants with expertise in areas of effective creative writing to meet a range of written communication and problem solving responsibilities in business, industry, and education. Participants must complete the following courses with a B or better to earn the certificate:

Tier One – Required

ENGL-245	Creative Writing	3
ENGL-XXX	Creative Writing II (<i>under development</i>)	3

Tier Two – Choice of two courses

ENGL-356	Creative Writing Workshop (<i>repeatable</i>):	
	1) Advanced Fiction Writing	
	2) Advance Poetry Writing	
	3) Advanced Creative Nonfiction Writing	6

Tier Three – Choice of one

ENGL-361	Hypertext Writing or	
ENGL-371	Writing for Multimedia	3

Tier Four – Capstone Seminar

ENGL-4XX	The Writer at Work Seminar (<i>under development</i>)	2
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For more information: Brian Fitch, fitchb@uwstout.edu, 715/232-1485

Gaming Management

The professional development certificate in Gaming Management will provide gaming personnel, graduate and undergraduate students, and international audiences with an understanding of the operational and management aspects of casino gaming while addressing the historical, legal, economic, social, psychological, and tourism impacts that gaming entertainment has on communities and societies.

HT-315/515	Gaming Management	3
HT-316/516	Casino Operations Management	3
HT-317/517	Psychosocial Issues in Gaming	3
HT-418/618	Casino Tourism	3

For information: Sharon Giroux, giroux@uwstout.edu, 715/232-2089

Human Resource Management

The Human Resource Management certificate program provides a broad base of knowledge to professionals seeking to expand their management competencies. The coursework is essential to prepare for the Professional Human Resource (PHR) exam, developed by the Society for Human Resource Management (SHRM) and recognized nationally as a significant credential for professional advancement in human resources. Competencies required by human resources professionals are best defined by content of the SHRM examination, and they are the same competencies covered in the coursework required for the certificate. The certificate in no way implies or guarantees that the student will pass the exam but should be seen as an important professional accomplishment.

The following courses provide the student with knowledge in all of the tested areas:

PSYC-381/581	Industrial Psychology	2
PSYC-382/582	Human Resource Management	3
PSYC-403/603	Management of Employee Reward Systems	3
PSYC-485/685	Recruitment and Selection of human Resources	3
TRHRD-360/560	Training Systems in Business and Industry	3
ECON-421/621	Collective Bargaining and Labor Relations	2
RC-381/581	Occupational Safety/Loss Control	2-3

For more information: Mitchell Sherman, shermanm@uwstout.edu, 715/232-2658

Quality Management

The Quality Management certificate program provides specific and focused content and activities to enable participants to develop competencies and skills commonly required for quality professionals. Completion of the certification program will prepare participants to pursue further credentials in the quality area, including American Society for Quality (ASQ) certification tests. Students earn the certificate by completing the following courses with a B- or better in each course:

INMGT-120	Quality Concepts	3
INMGT-320	Quality Tools	3
INMGT-325	Quality Management	3
INMGT-220	Quality Systems-Service Industries or	
INMGT-420	Quality Assurance Practicum	3-4

For more information: Donna Stewart, stewartd@uwstout.edu, 715/232-1234

AEC Architecture, Engineering and Construction

AEC-130 Hospitality, Living and Institutional Facility Planning (2 cr.)

Basic architectural drafting and design content, concepts, media, techniques, and methods to record and communicate ideas and solve problems.

AEC-131 Architectural Graphics (3 cr.)

Fall and Spring

Architectural drafting with emphasis on drawing theory and delineation. Drawing media and equipment are utilized in solving problems relating to construction that are normally solved graphically. If taken for three credits, computer aided drafting will be included in the course work.

AEC-171 Light Construction Methods and Materials (3 cr.)

Fall and Spring

The building process, terminology, codes, materials, safety requirements, tools, and equipment used in the construction industry with emphasis on residential and small commercial structures.

AEC-172 Construction Technology (3 cr.)

Fall and Spring

Technology of constructing buildings, bridges and other structures, including: site preparation, foundation systems, superstructures, enclosures, utilities, finishing methods, and materials.

AEC-190 Orientation To Construction Industry (1 cr.)

Fall and Spring

An introduction to the field of construction as presented by professionals in the construction industry to broaden student understanding and develop appreciation of the entire scope of construction.

AEC-191 The Built Environment (2 cr.)

TECH

Construction and its relationship to resources, materials, and the culture in which it takes place. Discussion of significant historical and modern structures. Emphasis on how, why, and by whom structures are built and what can be learned from them.

AEC-233 Architectural Design I (3 cr.)

Fall and Spring

Develop graphic simulation techniques and problem-solving abilities; site planning, space requirements, housing codes, structure, light frame construction, solar and earth integrated designs, mechanical and electrical systems. Prerequisites: take AEC-131.

AEC-237 Architectural Technology (3 cr.)

Fall and Spring

Space programming and planning, working drawings for commercial and industrial buildings. Building codes, energy requirements, construction contract documents, structural materials and systems, building materials and systems. Prerequisites: take AEC-131.

AEC-270 Heavy Construction Methods and Equipment (3 cr.)

Fall and Spring

Introduction to commercial and industrial building systems: equipment, site preparations, footings, foundations, formwork, concrete, steel, and wood timber techniques. Prerequisites: take AEC-171.

AEC-273 Concrete and Masonry Technology (3 cr.)

Fall and Spring

Fundamental principles of cement and concrete (ingredients, mixing, placement, finishing, curing, properties, and applications); clay and concrete units (ingredients, properties, manufacture, placement, and application). Prerequisites: take AEC-171; minimum grade C.

AEC-335 Architectural Design II (3 cr.)

Programming and analysis, design solution, presentation and design development drawings for

commercial and/or public buildings; scale, site, codes, energy, acoustics, structure and their relation to form.

AEC-357 Site Engineering (3 cr.)

Fall and Spring

Use of surveying instruments, techniques, computations and computer technology used to measure and describe land configurations; construction surveying including contours, grades, cut and fill, and drainage. Prerequisites: take AEC-131 MATH-121.

AEC-370 Construction Estimating I (3 cr.)

Fall and Spring

Estimating and analyzing material, labor, equipment, methods of construction, overhead and profit, and submitting these factors in the form of a bid. Prerequisites: take AEC-237.

AEC-375 Construction Practicum (2-4 cr.)

Summer

Technical information, construction problems and actual development of light residential structure.

AEC-395 Seminar (1-2 cr.)

Summer

Masonry and procedures necessary for the implementation of masonry education into the school construction curriculum. **R**

AEC-438 Contract Requirements and Specifications (3 cr.)

Fall and Spring

Principles of contract requirements and construction specification organization. Development of basic skills of project manual preparation. Demonstration of role of specifications within the construction process and relationship to other construction contract documents. Prerequisites: take ENGL-320 or ENGL-415.

AEC-452 Environmental Systems -- HVAC (3 cr.)

Fall and Spring

Principles of heating, ventilating and air conditioning; analysis and selection of systems and equipment. Prerequisites: take PHYS-222, PHYS-241, or PHYS-281.

AEC-453 Environmental Systems -- Plumbing and Electrical (3 cr.)

Fall and Spring

Plumbing, electrical and illumination systems for light and heavy construction. Prerequisites: take PHYS-232, PHYS-242, or PHYS-282.

AEC-458 Structural Systems -- Wood and Steel (3 cr.)

Fall and Spring

Analysis, selection, and delineation of wood and steel structural components and systems in buildings. Prerequisites: take PHYS-321.

AEC-459 Structural Systems -- Concrete and Masonry (3 cr.)

Fall and Spring

Analysis, selection, and delineation of concrete and masonry structural components and systems in buildings. Prerequisites: take AEC-458.

AEC-470 Construction Estimating II (2 cr.)

Fall and Spring

Computer-based estimating systems for construction. Take-off, pricing, bid preparation, resource and cost studies, and database operations. Prerequisites: take AEC-370; minimum grade C.

AEC-471 Project Scheduling and Cost Control (3 cr.)

Fall and Spring

Total concept of construction industry: contracting, financing, bidding, planning, organizing, coordinating, and controlling functions and techniques. Prerequisites: take AEC-370; minimum grade C.

AEC-472 Management of Construction (3 cr.)

Fall and Spring

Organizing, managing and operating the contracting firm. Prerequisites: take BUMGT-304.

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ANTH Anthropology

ANTH-220 Cultural Anthropology (3 cr.)

SBSCI ANTH ESB GLP Fall, Spring and Summer

Introduction to concepts and methods; variability of culture; outline of cultural elements; processes of cultural change.

ANTH-250 The Human Past (3 cr.)

SBSCI ANTH Fall and Spring

Biological anthropology: humans as primates, origins of humans, stages of human evolution, and relationship of biology and culture.

ANTH-300 Native Americans (3 cr.)

SBSCI ANTH ESA Fall and Spring

North American Indians: native American cultures prior to European contact, Indian/European historical relationships and contemporary reservation/urban Indian life and issues.

ANTH-420 The Anthropological Study of Family Systems (3 cr.)

Spring

Anthropological, cross-cultural view of family systems, with attention to their organization, functions, dynamics and articulation with other institutions. Senior level or higher.

ANTH-430 Ojibwe Lifeways (2-4 cr.)

ESA Summer

Indepth, interactive study of Ojibwe culture within a Wisconsin reservation community. \$

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APRL Apparel Design/Manufacturing

APRL-101 Introduction to Apparel Design and Development 3 cr.

Fall

Introduction to the apparel design process. Analysis of design elements and principles as related to aesthetics of apparel. Cultural influences on the aesthetic response and fashion acceptance.

APRL-140 Textiles 3 cr.

Fall and Spring

Selection, use and care of clothing and household fabrics: analysis of their components.

APRL-145 Interior Decorating/Design Textiles 3 cr.

Fall and Spring

Fibers and fabrics used in design/decorating planning of residential and commercial settings.

APRL-166 Apparel Construction 3 cr.

Fall and Spring

Construction theory and principles of fitting applied to garment construction. Recommended: APRL-140.

APRL-180 Pattern Development 3 cr.

Fall and Spring

Develop patterns for garments by flat patterning, drafting, and draping methods. Proficiency in Apparel Constr.

APRL-185 Apparel Line Development 3 cr.

Spring

Develop and present apparel lines for specific markets.

APRL-202 Quality Analysis of Sewn Products 3 cr.

Fall and Spring

Factors that influence quality levels in manufactured apparel and other sewn products. Prerequisites: take APRL-140.

APRL-211 History of Fashion-19th Century to Present 3 cr.

Spring

A study of the evolution of fashion from the 19th century to the present concentrating on the impact of the fashion designer and changing fashion trends.

APRL-250 Textile Evaluation 3 cr.

Fall

Problems in fiber identification, fabric performance and care; chemical and microscopic testing procedures; methods for gathering and interpreting data; individual problems. Prerequisites: take APRL-140.

APRL-274 Fashion Industry 3 cr.

GLP Fall

Processes/functional areas in a sewn product enterprise.

APRL-275 Apparel Grading/Marker Making 3 cr.

Spring

Size grade apparel patterns for various figure types. Make markers and plan cutting of fabric.

APRL-345 Textiles For Interiors 2 cr.

Spring

Raw materials, fabric structures, specifications, and legislation related to quality, performance, and maintenance of textiles for commercial and household uses. Prerequisites: take APRL-140.

APRL-355 Special Topics in Apparel Design/ Manufacturing 1-3 cr.

APSC Applied Science

APSC-201 Applied Science Profession I (1 cr.)

Fall and Spring

Exploration of career areas of interest; examine appropriate interpretations of scientific measurements and experimental design. Sophomore level or higher.

APSC-311 Issues for Science Professionals (3 cr.)

Fall and Spring

Proprietorial, ethical, and legal issues affecting the careers of science professionals. Junior level or higher.

Prerequisites: take PHIL-235.

APSC-398 Field Experience in Applied Science 2 cr.

Field experience in Applied Science in an approved position consisting of a minimum of 320 hours of work experience followed by an oral presentation and a written report.

APSC-401 Applied Science Profession II 1 cr.

Fall and Spring

Preparation for the science profession. Assess knowledge base, identify areas of strengths and weaknesses, define plan for further development.

Build a professional portfolio and resume, and review interviewing skills.

Explore methods of strategic planning and analysis for science professionals. Senior Level Or Higher.

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ART Art

ART-100 Drawing I (3 cr.)

HUM CRPRF

Fall and Spring

Study and application of the principles and mechanics of descriptive freehand drawing using black and white media.

ART-101 Two-Dimensional Design Foundations (3 cr.)

HUM CRPRF

Fall and Spring

Principles and elements of two-dimensional design and their application to the foundations of visual expression.

ART-102 Introduction to Art and Design (1 cr.)

Fall and Spring

Introduction to various disciplines and activities in art and design. Not appropriate for General

Education requirement.

ART-103 Three-Dimensional Design Foundations (3 cr.)

Fall and Spring

The study of the principles and elements of three-dimensional design and their application to the foundations of visual expression.

Prerequisites: take ART-101.

ART-145 The Practice of Art (3 cr.)

Summer

Introduction to current professional practices and historical roles of artists in culture. Studio Art or Art Ed Majors only.

ART-200 Drawing II (3 cr.)

Fall and Spring

Study and application of the principles and mechanics of interpretive freehand drawing focusing on invention, and creative investigation using a variety of black and white, color, and mixed media. Prerequisites: take ART-100. **R**

ART-209 Painting I (3 cr.)

Fall, Spring and Summer

Introduction and investigation of acrylic and/or oil painting.

Prerequisites: take ART-200.

ART-211 Sculpture I (3 cr.)

Fall and Spring

Introduction to sculptural concepts.

Prerequisites: take ART-103.

ART-213 Ceramics I (3 cr.)

HUM CRPRF

Fall, Spring and Summer

Basic design and techniques of ceramic production for artist/potter; forming, firing and surface treatment.

ART-215 Art Metal I (3 cr.)

HUM CRPRF

Fall, Spring and Summer

Design and construction of jewelry and objects in precious and non-precious materials with relationship to human interaction.

ART-217 Printmaking I (3 cr.)

Fall, Spring and Summer

Introduction to the concepts and techniques of printmaking.

Prerequisites: take ART-101 and ART-200.

ART-256 Art Workshop (1-3 cr.)

Fall, Spring and Summer

Selected art concepts, processes and media will vary to serve special student populations. Credit determined by individual contract.

ART-300 Drawing III (3 cr.)

Advanced Drawing methodologies with emphasis on media exploration, furthering drawing strategies, exposure to historical and current drawing concerns and independent research.

Prerequisites: ART-200. **R**

ART-301 Life Drawing I (3 cr.)

Fall and Spring

Drawing and analyzing the human figure and other natural forms. Translating three-dimensional form to the two-dimensional picture plane.

Prerequisites: take ART-200.

ART-307 Aesthetics and Contemporary Art Theory (3 cr.)

Fall and Spring

Introduction to the problems of aesthetics and contemporary art theory, e.g., interpretation, creation, and experience of art.

Prerequisites: take ARTH-223, ARTH-224, and ART-145; and take ARTH-336 or ARTH-337.

ART-401 Life Drawing II (1-3 cr.)

Fall and Spring

Advanced problems in figure composition and graphic interpretation of the figure. Initial enrollment must be for 3 credits.

Prerequisites: take ART-301. **R**

ART-409 Painting II (1-3 cr.)

Fall, Spring and Summer

Continued investigation of painting issues with a broader range of technical concerns, historical and contemporary approaches through expanded research requirements.

Prerequisites: take ART-209. **R**

ART-410 Painting III (3 cr.)

Fall and Spring

Self-directed study of painting. Continued development of individual research, painting skills, and studio discipline.

Prerequisites: take ART-409.

ART-411 Sculpture II (1-3 cr.)

Fall and Spring

Advanced problems in sculpture; exploitation of media for creative and expressive ends. Initial enrollment must be for 3 credits.

Prerequisites: take ART-211. **R**

ART-413 Ceramics II (1-3 cr.)

Fall, Spring and Summer

Use of clay, glazes and kiln for design and production of high-fired ceramics. Initial enrollment must be for 3 credits.

Prerequisites: take ART-213. **R**

ART-415 Art Metal II (1-3 cr.)

Fall, Spring and Summer

Advanced problems in design and construction of jewelry, hollow forms and objects in precious and non-precious materials. Initial enrollment must be for 3 credits.

Prerequisites: take ART-215. **R**

ART-417 Printmaking II (1-3 cr.)

Fall, Spring and Summer

Advanced work in the processes of relief, silkscreen, etching or lithographic printmaking. Initial enrollment must be for 3 credits.

Prerequisites: take ART-217. **R**

ART-445 Senior Seminar (1 cr.)

Summer

Professional practice including portfolio and senior exhibition; current ideas and career opportunities within the art profession. Senior Level Or Higher. Studio Art or Art Ed Mj Only.

Prerequisites: take ART-145 and ART-307 (can be taken concurrently)

ART-456 Advanced Art Workshop (1-3 cr.)

Selected art concepts, processes and media will vary to serve special student populations. For students familiar with workshop approach or advanced in art program. Credit determined by individual contract. **R**

ARTED Art Education

ARTED-108 Introduction To Art Education (2 cr.)

Fall

Introduction to the Art education field, responsibilities of art teachers, literature, and current issues in the profession.

ARTED-208 Preteaching Observation (2 cr.)

Fall

Examination of K-12 art teaching methods and practices through on-site observations, discussion and related coursework. Required 30 hours of K-12 art classroom observation. Education majors only; must have completed Benchmark I.

Prerequisites: take ARTED-108.

ARTED-308 K-12 Art Education Theory, Methods, and Practice (4 cr.)

Spring

Theory, methods, and curriculum development in art education including K-12 art teaching practicum in selected elementary and secondary art classrooms. Education majors only; must have completed Benchmark I.

ARTED-408 Student Teaching in Art Education — Elementary (8 cr.)

Fall and Spring

Directed teaching in elementary art; required student teaching seminars, on-line course participation, and completion of portfolio. Education majors only; must have completed Benchmark I.

ARTED-409 Student Teaching in Art Education — Secondary (8 cr.)

Fall and Spring

Directed teaching in secondary art; required student teaching seminars, on-line course participation, and completion of portfolio. Education majors only; must have completed Benchmark I.

ARTED-488 Intern Teaching: Art Education (8-16 cr.)

Fall and Spring

Alternative method of obtaining Art Education student teaching experience. Interns receive license to teach and salaried appointment in a cooperating school for one semester. School of Education permission required.

Prerequisites: take ARTED-208, EDUC-303, EDUC-312, EDUC-326, EDUC-336, EDUC-376, EDUC-382, SPED-430.

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ARTH Art History

ARTH-222 Introduction To Art (3 cr.)

HUM/ARTMU

Fall

Art appreciation and historical survey for the non-art major.

ARTH-223 Survey of Art--Ancient Through Medieval (3 cr.)

HUM/ARTMU

The painting, sculpture, architecture and minor arts in the ancient western world.

ARTH-224 Survey of Art-Renaissance through 20th Century (3 cr.)

HUM/ARTMU

Sculpture, painting, architecture and minor arts of western world from 14th century to present.

ARTH-319 Evolution of Design (3 cr.)

Summer

Examination of basic concepts which influence the evolution of architecture, art and design.

Prerequisites: take ARTH-224 and ENGL-101, or take ARTH-224 and ENGL-111.

ARTH-325 Egyptian and Mesopotamian Art (3 cr.)

The evolution of the arts of ancient Egypt and the Near East.

ARTH-326 Greek and Roman Art (3 cr.)

The arts of ancient Greece and Rome.

ARTH-327 Medieval Art (3 cr.)

The arts of Europe and Byzantium from late Roman Empire to end of Middle Ages.

ARTH-328 Italian Renaissance Art (3 cr.)

Architecture, sculpture and painting of the Italian Renaissance from 14th to 17th century.

ARTH-329 Northern Renaissance Art (3 cr.)

Renaissance art in Northern Europe from 15th to 17th century.

ARTH-330 Northern Baroque Art (3 cr.)

Architecture, painting, sculpture and other art forms of 17th century Northern Europe.

ARTH-331 Southern Baroque Art (3 cr.)

Development of art in Southern Europe from Italian Renaissance to 18th century.

ARTH-332 Women in Art History (3 cr.)

Spring

A survey of the images and the imagery of women in art from prehistoric times to the present.

ARTH-333 Period Furnishings (3 cr.)

Fall

A survey of furniture and furnishings in the western world.

ARTH-334 American Art (3 cr.)

Development of visual arts in the United States from colonial period to 1950.

ARTH-335 19th Century Art in Europe (3 cr.)

History of European art from about 1800 to 1900.

ARTH-336 Modern Art (3 cr.)

Fall

The main currents and developments in art from Monet and Cezanne to 1950.

ARTH-337 Art Since 1950 (3 cr.)

Developments in painting and sculpture in Europe and America since 1950. Prerequisites: take ARTH-224.

ARTH-338 Asian Art (3 cr.)

Art from prehistoric times to 19th century in China, Japan and their spheres of influence.

BIO Biology

BIO-101 Introductory Biology (4 cr.)

NSCI LFSC LAB Fall, Spring and Summer

Introduction to the science of biology including life processes, cell biology, genetics, molecular biology, evolution, ecology, plant and animal diversity. Life systems are viewed from the sub-cellular to the community level, emphasizing the diversity, functioning, and interaction of whole organisms.

BIO-111 Science, Society, and the Environment (4 cr.)

NSCI LFSC LAB GLP Fall, Spring and Summer

Relationship of humans to the natural environment. Ecological principles in relation to contemporary problems such as resource utilization, species extinction, human population dynamics, waste, and pollution generation and control.

BIO-122 Introductory Biology (3 cr.)

NSCI LFSC LAB Fall, Spring and Summer

Principles of biology: cellular metabolism, heredity and relationships between living organisms and their environments, with laboratory.

BIO-125 Biology of Aging (3 cr.)

NSCI LFSC Spring

Understanding the aging process. Physiological, demographic, immunological and overall health aspects of aging.

BIO-128 Community Health (2 cr.)

HPE HLTH Fall, Spring and Summer

Disease prevention through education, sanitation, isolation and immunization; public health programs and operation of federal and state laws.

BIO-130 Human Sexual Biology (3 cr.)

NSCI LFSC Fall and Spring

Male and female differentiation, development, structure, function and diseases of the reproductive system. Sperm and ovum production, fertility control, pregnancy, birth and lactation, mechanisms and patterns of inheritance.

BIO-132 Human Biology (4 cr.)

NSCI LFSC LAB Fall, Spring and Summer

Basic concepts of physiological processes and anatomy of all organ systems of humans, based on dissection of a cat; embryological development.

BIO-135 Organismal Biology (4 cr.)

Spring

Introduction to the biological sciences, including evolution, an overview of life's diversity, plant biology, animal biology, and ecology. Emphasis on scientific thought processes, laboratory skills, and communication skills. H.S. Biology required; for Applied Science majors only.

BIO-136 College Molecular Cell Biology I (5 cr.)

Fall

Introduction to the biological sciences, including cell biology, physiology, and molecular biology. Emphasis on scientific thought processes, laboratory skills, and communication skills. For Applied Science majors and Biology minors.

BIO-150 Environmental Science (2 cr.)

NSCI LFSC GLP Fall, Spring and Summer

The relationship of humans to the natural environment. Study of ecological principles in relation to contemporary problems such as resource utilization, human population dynamics, waste and pollution control.

BIO-206 Food Service and Environmental Sanitation (1 cr.)

Fall and Spring

Microbial problems in food service industry: sanitation, storage, handling, distribution, serving, personnel, equipment and facilities.

BIO-210 Concepts and Issues in Biotechnology (2 cr.)

NSCI LFSC TECH GLP Fall and Spring

Concepts and issues in the field of Biotechnology. Overview of stem cell research, cloning, tissue engineering, artificial organs, genetically modified foods, and others as appropriate.

BIO-220 Physiology of Disabilities (3 cr.)

Fall and Spring

Causes, consequences, prognoses and treatments of diseases and injuries common in today's society. Includes genetic disorders, birth defects, cancers, degenerative disorders, spinal cord injuries, cardiovascular abnormalities and immune disorders.

Prerequisite: take BIO-132 or BIO-134.

BIO-234 Physiology and Anatomy (4 cr.)

NSCI LFSC LAB Fall and Spring

The structure and function of the human organism at the cellular, organ, and organism levels with emphasis on the physiological control systems and the concept of homeostasis as the unifying concept in physiology.

Prerequisites: take BIO-101, CHEM-125 or CHEM-135.

BIO-235 Molecular Cell Biology II (4 cr.)

Fall

Consideration of eukaryotic cell structure, function and processes.

Prerequisites: take BIO-136 CHEM-136.

BIO-242 Botany (4 cr.)

NSCI LFSC LAB Fall and Spring

Introduction to structure and function of plants, survey of plant kingdom, and structure and life history of representative forms of plant life.

BIO-252 Zoology (4 cr.)

NSCI LFSC LAB Fall and Spring

Investigation of vertebrate and invertebrate animal life. Diversity, physiology and adaptation of the animal species.

BIO-255 The Biology of Fly Fishing (2 cr.)

NSCI LFSC Spring

The science and art of fly fishing. Research aquatic environments and ecosystem dynamics to understand the relationship between fish and the world around them. Gain exposure to aquatic ecology, fish and insect identification and behavior, and fly tying.

BIO-306 General Microbiology (4 cr.)

Fall and Spring

Introduction to microbial life forms including Archaea, Bacteria, and Eukarya. Survey of microbial cell biology, physiology, molecular biology, ecology, and pathogenesis. Bacteriological and molecular methods used to identify microorganisms in natural and artificial environments.

Prerequisite: take BIO-101 or take 1 CHEM course.

BIO-350 Ecology (3 cr.)

NSCI LFSC LAB Fall and Spring

Interrelationships of organisms with their abiotic and biotic environments.

Corequisite course: BIO-101.

BIO-358 Introductory Pharmacology (2 cr.)

Discussion of the sites and mechanisms of drug action, mechanisms of drug distribution, biotransformation and elimination. Analgesics and psychoactive drugs, drugs used clinically to impact cardiovascular care and to manipulate the reproductive system.

Prerequisite: take BIO-132, BIO-234 or CHEM-135.

BIO-360 Introduction to Neuroscience (3 cr.)

Even Years -- Fall

Investigation of the human nervous system at the molecular, cellular and system level. Organization and function of neuronal cells, sensory receptors, sensory and motor pathways and integration centers. Introduction to electro- physiology, biochemistry of neurotransmitters and receptors, neuropharmacology, development of the nervous system, and consequences of neuronal disease and trauma.

Prerequisite: take BIO-132 or BIO-234.

BIO-361 Psychobiology (2 cr.)

Spring

Biological basis of human and animal behavior: evolution of physiological and behavioral adaptations of organisms to their environment.

BIO-362 Advanced Physiology (3 cr.)

Fall and Spring

Human physiology with emphasis on integration of the nervous, muscular, cardiovascular, immune, renal, respiratory, digestive and endocrine systems. Cellular and molecular processes are studied. Computer simulations and experiments in frog physiology will be utilized.

Prerequisite: take BIO-234.

BIO-370 Biotechnology (3 cr.)

Theoretical and laboratory experience in recombinant DNA techniques and their applications in the biotechnology industry. High School Biology/Chemistry or equivalent required.

Prerequisites: take CHEM-201.

BIO-400 Special Topics in Biotechnology (1-2 cr.)

Topics of current or historical importance in the understanding of biotechnology. Designated topics announced prior to start of semester. May be repeated for elective credit. Junior Level Or Higher. **R**

BIO-406 Food Microbiology (3 cr.)

Fall and Spring

Methods of food preservation, their effectiveness and related food spoilage by microorganisms. Quality control techniques used to determine presence of specific groups of economically important microorganisms.

Prerequisite: take BIO-306.

BIO-444 Problem Solving in Environmental Studies (3 cr.)

Integrate knowledge, theory, and practice from the humanities, social and natural sciences to explore current environmental issues and challenges. Junior Level Or Higher.

Prerequisites: take BIO-350.

BIO-470 Advanced Biotechnology (5 cr.)

Fall

Molecular biotechnology, including manipulation of prokaryotic and eukaryotic cells, computer analysis of genomic and proteomic data, and applications in the biotechnology industry.

Prerequisites: take BIO-235 and BIO-370.

BIO-489 Advanced Biology Experience (1-4 cr.)

Experiences leading to deeper understanding of biological principles. Junior level or higher. **R**

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BUACT Business Accounting

BUACT-200 Financial-Managerial Accounting – Engineering Technology (2 cr.)

Fall and Spring

Survey of financial accounting concepts for a sole proprietorship, partnership, and corporation. Managerial accounting concepts will be covered in use of the annual report, with emphasis on financial statement analysis.

BUACT-201 Financial-Managerial Accounting (3 cr.)

Fall and Spring

Survey of financial accounting concepts for a sole proprietorship, partnership and corporation. Managerial accounting concepts will be covered in the use of the annual report, with emphasis on financial statement analysis including the cash flow statement and budgets. For Engineering Technology and Industrial Management majors only.

BUACT-206 Introduction to Financial Accounting (3 cr.)

Fall, Spring and Summer

Theory of debit and credit, principles of accounting records, modern business papers, working sheets, balance sheets and income statements, and sole proprietorships. Sophomore level or higher.

BUACT-207 Introduction - Corporate and Managerial Accounting (3 cr.)

Fall, Spring and Summer

Development of basic accounting theory from BUACT-206: partnership and corporate forms of organization; branch and manufacturing accounting; cost accounting, budgeting and analysis and interpretation of financial statements. Prerequisites: take BUACT-206.

BUACT-312 Cost Accounting (3 cr.)

Fall and Spring

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting. Equivalent to BUACT-410. Prerequisites: take BUACT-206.

BUACT-320 Income Tax Accounting (3 cr.)

Fall and Spring

General concepts of U.S. tax law and its effect on individual, partnership, and corporate decisions; computation of federal and state taxes for individuals. Prerequisites: take BUACT-206.

BUACT-335 Accounting for Management Decisions (3 cr.)

Fall and Spring

Interpretation of financial statements, internal control, budgeting, costing of products manufactured and sold, analysis of cost-volume- profit decisions. Data presented without mechanical techniques. Prerequisites: take BUACT-207.

BUACT-340 Business Finance (3 cr.)

Fall, Spring and Summer

Concepts of raising, allocating and controlling capital for business entities; analysis of the income tax system and its relevance with business decisions; analysis of financial data in making investment decisions. Prerequisites: take BUACT-207 and STAT-130 and MATH-123.

BUACT-346 Seminar (1-3 cr.)

Current topics in business. (Title will reflect specific business content.) **R**

BUACT-410 Manufacturing Cost Analysis (3 cr.)

Fall and Spring

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting for a manufacturer. Equivalent to BUACT-312. Prerequisites: take BUACT-206 or BUACT-201.

BUACT-498 Business Accounting Field Experience (1-2 cr.)

Off-campus work and study in an approved position to better understand the challenges of being an effective manager. **R**

BUINB Business International Business

BUINB-260 Introduction to International Business (3 cr.)

GLP Fall and Spring

Introduction to the interaction of foreign business, politics, culture, societies on basic international business systems. Basic terminology of International Business is of primary importance. Sophomore level or higher.

BUINB-338 International Logistics (3 cr.)

Spring

International logistics strategy: customer service, inventory, transportation, packaging, warehousing, storage, exporting, licensure, joint ventures, ownership documentation, terms of trading, organization, financial and management skills. Prerequisites: take BUMKG-438

BUINB-367 International Management (3 cr.)

GLP

Theory and practice of managing international organizations, including socio-cultural aspects and group dynamics of international businesses and service organizations. Prerequisites: take BUMGT-304.

BUINB-485 International Marketing (3 cr.)

GLP Fall and Spring

Principles and policies of marketing goods and services in international markets. Concepts, strategies and policies of world trade and multinational firms. Prerequisites: take BUMKG-330.

BUINB-488 International Business Practicum (3 cr.)

Fall and Spring

Assist an actual business in developing their international marketing plan. Students, under the supervision of a faculty member, determine a product's foreign marketability. Prerequisites: take BUINB-485.

BUINB-489 International Business Policies (3 cr.)

GLP Fall and Spring

Students develop the ability to solve business problems in the international arena using a scientific approach to decision making by studying business cases on international policy formulation and administration, manufacturing, marketing, finance, accounting, personnel and public relations functions. Senior level or higher. Prerequisites: Take one course from BUINB, take BUMGT-304, BUMKG-330 or BUACT-340, and take ECON-210 or ECON-201.

BULGL Business Legal

BULGL-318 Business Law I (3 cr.)

Fall, Spring and Summer

Introduction to the nature of law, the legal system and the judicial process; also includes contracts, sales of goods and agency. Junior level or higher.

BULGL-319 Business Law II (3 cr.)

A continuation of Business Law I; includes property, secured transactions, bankruptcy, estates, commercial paper, partnerships, and corporations. Prerequisites: take BULGL-318.

BULGL-346 Seminar (1-3 cr.)

Current topics in business. (Title will reflect specific business content.) **R**

BULGL-355 Principles of Risk Management (3 cr.)

Fall and Spring

An overview of the role of management of risks in business with emphasis on identification of risks and evaluation to determine methods of handling them. We will consider all methods with emphasis on insurance. Junior level or higher.

BULGL-365 Principles of Real Estate (2 cr.)

Fall and Spring

Overview of transactions in real estate, examination of the law as it relates to nature of real property, interests in real property, acquiring ownership, brokerage, real estate sales contracts, financing, land use control, and leasing and property management.

BULGL-401 Legal Environment of Business (2 cr.)

Fall and Spring

Changing relationship of government and industry: regulatory legislation, administrative agencies, national policies and social control.

BULGL-473 Legal Aspects of Construction (3 cr.)

Fall

Analysis of contracts and documents used in building construction industry: rights of the parties. Labor relations: law and labor, legality of strikes, legality of picketing and boycott as economic pressure, unfair labor practices, employer and union, rights and responsibilities of supervisor and worker.

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BUMGT Business Management

BUMGT-100 Introduction to Business Administration (1 cr.)

Fall and Spring

Basic business systems processes, their interrelationships and role of business environment. Business Administration Program: advisement, course sequence and job opportunities. General Business Administration majors only.

BUMGT-115 Understanding Business (2 cr.)

Concepts, functions, and interrelationships of various subdivisions of service and production organizations. Equivalent to BUMGT-116.

BUMGT-116 Fundamentals of Business (3 cr.)

Summer

Fundamental exploration of contemporary business practices. Emphasis on case studies and computer simulations related to external business conditions impacting the organization.

Equivalent to BUMGT-115.

BUMGT-304 Principles of Management (3 cr.)

Fall, Spring and Summer

Basic managerial functions: planning, organizing, staffing, directing and controlling; management principles with universal applications; nature of authority and responsibility, departmentation, line and staff relations; enterprise manager in the social setting, comparative management; and management and the future.

BUMGT-346 Seminar (1-3 cr.)

Fall, Spring and Summer

Current topics in business. (Title will reflect specific business content.) **R**

BUMGT-398 Business Administration Field Experience (1-2 cr.)

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand the challenges of being an effective manager. **R**

BUMGT-480 Entrepreneurship: Small Business Planning (3 cr.)

Fall and Spring

Concepts, strategies, and applications involved in entrepreneurship. Profile of entrepreneurs and the risks and rewards, creating products and services for the market place, going into business -- start-up, buy out, franchise— legal and financial aspects. Preparing a business plan required. Prerequisites: take BUMKG-330, BUACT-206 or BUACT-200.

BUMGT-489 Business and Industrial Internship(1-8 cr.)

Fall, Spring and Summer

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Junior level or higher. **R**

BUMGT-490 Strategic Management and Business Policy (3 cr.)

Fall and Spring

Integrates previous business studies, develops ability to solve business problems through scientific approaches to decision-making. Students use business cases on policy formulation and administration: manufacturing, marketing, finance, accounting, personnel, and public relations functions. Senior level or higher. Prerequisites: Take BUMKG-330 and ACT-340, and take ECON-210 or ECON-201.

BUMGT-498 Business Administration Field Experience (1-2 cr.)

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand the challenges of being an effective manager. **R**

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BUMIS Business Management Information Systems

BUMIS-333 Management Information Systems - Decision Support Systems (3 cr.)

Fall, Spring and Summer

Improving the practice of business management through utilization of computer software based management information systems (MIS). Employs spreadsheet software as an aid to management in making, implementing and controlling decisions. Prerequisites: take BUACT-206.

BUMIS-346 Seminar (1-3 cr.)

Current topics in business. (Title will reflect specific business content.) **R**

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BUMKG Business Marketing

BUMKG-308 Marketing for Non-Profit Organizations (2 cr.)

WinTerM

Strategic marketing planning process, marketing audit, marketing strategy development, positioning concept, market research, marketing mix, communication strategies and ethical issues for non-profit organizations. Sophomore level or higher. Equivalent to BUMKG-346.

BUMKG-330 Principles of Marketing (3 cr.)

Fall, Spring and Summer

Retail, wholesale, advertising, channels of distribution, cooperative marketing, pricing, marketing research and marketing legislation from consumer's, middleman's and manufacturer's standpoint.

BUMKG-334 Salesmanship and Sales Management (3 cr.)

Fall, Spring and Summer

Concepts of selling: locating prospects, securing and conducting sales presentations, analyzing and handling different types of customers, closing sale, maintaining goodwill. Sales organizations: recruitment, selection, training compensation and cost control methods. Prerequisites: take BUMKG-330.

BUMKG-337 Purchasing and Supply Chain Management (3 cr.)

Fall and Spring

Process used in purchasing goods and services; procurement process; management of supplier relationships; roles of quality, economics, and legal aspects of purchasing. Prerequisites: take BUMKG-330.

BUMKG-346 Seminar (1-3 cr.)

Current topics in business marketing. (Title will reflect specific content.) **R**

BUMKG-350 E-Business Strategy and Practice (3 cr.)

Fall and Spring

Development and growth of Internet marketing. An examination of e-business basics, business models, current and future trends, major issues, evaluation of model design and Internet marketing plans. Sophomore level or higher.

BUMKG-370 Principles of Advertising (3 cr.)

Fall and Spring

Psychological, social and economic aspects of advertising in relationship to other aspects of distribution and its place in modern business. Prerequisites: take BUMKG-330.

BUMKG-436 Marketing Management (3 cr.)

Fall and Spring

Examination of the marketing place with emphasis on unique characteristics of the marketing environment. Special emphasis on case study analysis and discussion. Advanced marketing course required. Prerequisites: take BUMKG-330 and BUACT-207.

BUMKG-438 Principles of Logistics (3 cr.)

Fall and Spring

Applies systems approach to plan movement and storage of raw materials, components and finished goods from point of origin to point of consumption. Focuses on transportation and warehousing decisions, channel structures, physical distribution, materials management, and supply chain concepts. Prerequisites: take BUMKG-330.

BUMKG-439 Industrial Distribution Seminar (2 cr.)

Spring

Culminating and synthesizing experiences in industrial distribution. Individual topics will vary from semester to semester reflecting the latest changes in the field.

BUMKG-479 Marketing Research (3 cr.)

Fall and Spring

Experimental and survey techniques to secure information for successful marketing; primary and secondary sources; data collection, compilation and analysis methods; effective communication of conclusions and recommendations to management. Prerequisites: Take BUMKG-330; and take STAT-130, STAT-320, STAT-331, or ECON-325.

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BURTL Business Retail

BURTL-105 Introduction to Retail Merchandising and Management (1 cr.)

Fall

Exploration of origin, structure and trends in retail business. Includes industry expectations, career opportunities, curriculum and other requirements, and industry periodicals.

BURTL-109 Introduction to Interior Decorating (3 cr.)

Fall

Identification and application of design elements and principles as they relate to interior decorating. Identification of the professional role of the interior decorator.

BURTL-127 Basic Merchandising (3 cr.)

Fall and Spring

Analyzing the retailing process, the environment within which it operates, and the institutions and functions that are performed. A foundation for students who plan to work in retailing or related disciplines.

BURTL-212 Trend Tracking and Forecasting (3 cr.)

Fall

Tracking and forecasting of product and consumer trends based on product lifecycle trends, fashion theories, socioeconomic and cultural factors, lifestyles, psychographic and demographic trends in the marketplace.

BURTL-222 Computer Applications (2 cr.)

Microcomputer applications. Analysis of appropriate data bases. Evaluation of software. Hardware selection criteria appropriate to applications. Comparison of mainframe and microcomputer appropriate applications. Prediction of future applications. Repeatable for various subunits.

BURTL-229 Visual Merchandising (3 cr.)

Spring

Specialized study and application of merchandise/ product presentation techniques for individual displays and store designs. Interpreting basic design elements and principles for display; selecting and using of appropriate tools, fixtures, and materials; coordinating visual

presentations and other promotional activities to achieve marketing objectives.

BURTL-319 International Economic Trends in Textiles and Clothing (3 cr.)

GLP Fall and Spring

Economic importance of the textile and apparel industries in the United States and the world.

Prerequisites: take APRL-140 and ECON-210.

BURTL-322 Merchandising and Marketing an Apparel Line (2 cr.)

Spring

Merchandising and marketing of product lines from manufacturer to retailer to consumer.

Prerequisites: take BURTL-227.

BURTL-327 Store Management (3 cr.)

Fall and Spring

Develop management skills for retail stores of varying size. Senior level or higher.

Prerequisites: take BURTL-430.

BURTL-329 Retail Promotions (3 cr.)

Fall

Planning and execution of all the promotional messages used to communicate with members of a target market.

Prerequisites: take BURTL-127.

BURTL-330 Home Furnishings Merchandising (2 cr.)

Spring

Home furnishings merchandised by primary types of retail outlets.

Prerequisites: take BURTL-227.

BURTL-335 Special Topics in Retail Merchandising and Management (1-3 cr.)

Fall, Spring and Summer **R**

BURTL-350 Marketing to Aging and Minority Consumers (2 cr.)

Fall

Identify product and service needs of Native, African, Asian and Hispanic Americans, and aging consumers. Interpret demographic, psychological and cultural data of these special populations and develop merchandising strategies.

Prerequisites: take BUMKG-330.

BURTL-390 Merchandise Planning and Control (4 cr.)

Fall and Spring

Techniques for financial and unit planning, procurement and control of inventories for successful retail operations.

Prerequisites: take BUACT-206.

BURTL-395 Assortment Planning (3 cr.)

Fall and Spring

Methods of optimizing retail product assortments to gain a competitive advantage.

Prerequisites: BURTL-390 and APRL-202.

BURTL-398 Field Experience (1-2 cr.)

Off-campus work and study in approved position to better understand challenges and potentials of various careers in merchandising and clothing and textile industries. **R**.

BURTL-409 Interior Decorating Studio (3 cr.)

Spring

Analysis and application of decorating trends. Development of resource file of interior decorating trends and application of interior decorating concepts to specific client needs. Senior level or higher.

Prerequisites: take DES-304.

BURTL-417 Social/Psychological Aspects of Clothing (3 cr.)

GLP Fall and Spring

Social and psychological influence of dress on individual and group behavior patterns.

BURTL-419 National Study Tour to Fashion Industry (1 cr.)

Fall and Spring

Five-day visit to New York or alternate city: study hours, discussions and lectures by leaders in American fashion market. Junior Level or Higher. **R**

BURTL-425 Current Retail Strategies for a Differential Advantage (2 cr.)

Fall and Spring

Comparative analysis of specific retail corporations' strategies to gain a differential advantage with their merchandising and operational methodology. Senior level or higher.

Prerequisites: take BURTL-127

BURTL-426 Fashion Retailing Practicum (4 cr.)

Fall, Spring and Summer

Observation and structured experience in merchandising procedures dealing with complete operations and management of retail establishment.

Prerequisites: take BURTL-329 and BURTL-430.

BURTL-431 Service Management Strategies (3 cr.)

Fall and Spring

Analysis of modes of service. Planning strategies leading to quality implementation, utilizing extensive case studies.

BURTL-477 Study Abroad - American Fashion College (16 cr.)

Fall

A program for selected students which offers an opportunity to study at the American Fashion College in London with the opportunity to travel in Europe. 2.5 GPA in Professional Core. Apparel Design and Development or Retail Merchandising and Management majors only.

BURTL-490 Advanced Merchandise Planning Control (3 cr.)

Fall and Spring

Application of merchandise theory and techniques to budget, manage, and adjust actual purchases, inventory, and sales of an actual retail business.

Prerequisites: take BURTL-430.

BURTL-498 Field Experience (1-2 cr.)

Off-campus work and study in approved position to better understand challenges and potentials of various careers in merchandising and clothing and textile industries. **R**

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CADD CADD/Drafting

CADD-112 Principles of Engineering Drawing 3 cr.

Fall and Spring Semesters

Drafting principles, concepts, and graphic language necessary to communicate technical information on industrial drawings through sketching, traditional drafting (TRAD) and computer (CAD) techniques.

CADD-113 Principles of Engineering Drawing II 2-3 cr.

Fall and Spring Semesters

An advanced study of drafting principles, concepts and techniques using the graphic language necessary to communicate with manufacturing personnel, floor workers, designers and engineers. Reading, research analysis and graphic solutions using sketches, traditional (TRAD) and computer (CAD) drafting are used.
Prerequisite: CADD-112.

CADD-234 Computer-Assisted Design and Drafting 2 cr.

Fall Semester and Summer Session

PC based CADD; solve problems with the assistance of computer hardware and software.

Generate drawings for architectural and mechanical design applications.

Prerequisites: CADD-112, AEC-130 or AEC-131.

CADD-395 Seminar 1-2 cr.

Summer Session

Title will reflect specific design, research and development content. Current and projected communication methods, concepts, technologies and innovations in design, research and development. **R**

CADD-400 Workshop 1-3 cr.

Fall, Spring and Summer

Special topics in design, research and development, providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

CADD-436 Computer Assisted Design Problems 2 cr.

Spring Semester

Advanced CADD applications. Construct three dimensional wireframe drawings. Perform finite element analysis on select components. Customize software for specific applications. Customize software for specific applications. In-depth analysis of CADD applications in mechanical and architectural design. Instructor's consent required.

CADD-466 3-D Computer Modeling and Rendering 3 cr.

Spring Semester

Development of three-dimensional computer models and computer graphic images. Includes 3-D surface modeling and rendering.

Prerequisites: CADD-112 or CADD-234.

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CHEM Chemistry

CHEM-105 Visualizing Chemistry (2 cr.)

NSCI PHYSC Fall, Spring and Summer

Simple demonstrations that illustrate and reinforce understanding of the physical and chemical properties of matter. Description of the underlying chemistry and chemical safety. **\$**

CHEM-107 Chemical Science and Technology (2 cr.)

TECH NSCI PHYSC

Developments in chemical sciences and how they provide key materials and principles that are utilized by other sciences, today's technology and culture.

CHEM-115 General Chemistry (5 cr.)

NSCI PHYSC LAB Fall, Spring and Summer

Fundamental principles of chemistry with applications: composition and structure of matter, formation and naming of compounds, mole concept, writing and balancing chemical equations, types of reactions, elementary stoichiometry, bonding, states of matter, equilibrium, solutions, acids and bases. Math proficiency greater than or equal to MATH-110.

CHEM-125 Principles of Chemistry For Health Sciences (5 cr.)

NSCI PHYSIC LAB Fall

Principles of chemistry: general, reaction stoichiometry, equilibrium and thermodynamics. Math proficiency greater than or equal to MATH-110.

CHEM-135 College Chemistry I (5 cr.)

NSCI PHYSIC LAB Fall and Spring

Principles of inorganic chemistry, properties of important elements and compounds. More rigorous approach and more extensive coverage than in CHEM-115. Normally followed by CHEM-136. Math proficiency greater than or equal to Math-120.

CHEM-136 College Chemistry II (5 cr.)

NSCI PHYSIC LAB Fall and Spring

Reactions and properties of common elements and inorganic compounds; oxidation-reduction and solution equilibria; electrochemistry. Lab work in qualitative analysis for common ions. Prerequisites: take CHEM-135, or MATH-120 and CHEM-125.

CHEM-201 Organic Chemistry I (4 cr.)

Fall and Spring

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types. Prerequisites: take CHEM-115 with a minimum grade C; or take CHEM-125 with a minimum grade C; or take CHEM-135.

CHEM-204 Organic Chemistry II Lecture (3 cr.)

Spring

Continuation of Organic Chemistry I; organic reactions, organic compound synthesis, reaction mechanisms and kinetics, transition state theory, thermodynamics; introduction to IR, NMR and UV-visible spectroscopy of organic compounds. Prerequisite: take CHEM-201.

CHEM-206 Organic Chemistry II Laboratory (1 cr.)

Spring

Systematic identification of organic compounds using chemical, physical, and instrumental methods with option for organic compound synthesis. Prerequisite: CHEM-201. Corequisite: CHEM-204.

CHEM-301 Physical Chemistry Lecture (3 cr.)

Fall and Spring

Fundamental physical chemistry; behavior of gases, liquid state, properties of solutions, principles of thermodynamics, thermochemistry. Taken concurrently with CHEM-303. Prerequisites: take CHEM-115 ; or CHEM-125; or CHEM-135 and MATH-156.

CHEM-303 Physical Chemistry Laboratory (1 cr.)

Lab course to be taken concurrently with CHEM-301. Experimental techniques and apparatus; treatment of experimental data. Prerequisites: take CHEM-115; or CHEM-125; or CHEM-135 and MATH-156.

CHEM-311 Biochemistry (4 cr.)

Fall and Spring

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures. Prerequisites: take BIO-132 and CHEM-201.

CHEM-315 Food Chemistry (3 cr.)

Spring

Organic biochemistry of foods: enzymatic and non-enzymatic changes associated with food preparation and storage (Maillard-Browning reaction), denaturation of protein, changes in color, odor, texture and nutritive value. Techniques for isolation and identification of biochemical constituents of foods.

Prerequisites: take CHEM-115, CHEM-125 or CHEM-135, and CHEM-201.

CHEM-325 Chemistry of Polymers (4 cr.)

Fall

Basic science of polymers. Common industrial polymers and their applications. Relationship of the structure and salient structural features of industrial polymers with their properties and applications.

Prerequisite: take CHEM-135.

CHEM-331 Quantitative Analysis (3 cr.)

Fall

Introduction to the principles of quantitative chemical analysis and training in precision laboratory techniques.

Prerequisites: take CHEM-115, CHEM-125 or CHEM-135, and CHEM-136 or CHEM-201.

CHEM-335 Instrumental Methods of Analysis (3 cr.)

Spring

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Prerequisites: take CHEM-115, CHEM-125 or CHEM-135, CHEM-136 or CHEM-201.

CHEM-341 Chemistry of Materials (4 cr.)

Fall and Spring

Relationship of the chemistry and microstructure of structural materials (metals, polymers and ceramics) to their properties; degradation of those materials, corrosion of metals, polymers and ceramics.

Prerequisites: take CHEM-115, CHEM-125 or CHEM-135.

CHEM-353 Environmental Chemistry (3 cr.)

Fall and Spring

Principles and origins of chemical reactions that lead to ecological imbalance; systems that have contributed to large-scale environmental pollution or are of current importance; chemical technology needed to correct imbalance. Prerequisites: take CHEM-115, CHEM-125 or CHEM-135.

CHEM-412 Advanced Biochemistry (3 cr.)

Fall and Spring

Structure and function of enzymes and membrane-bound proteins, enzyme kinetics and mechanism, and regulatory mechanisms of metabolism at the molecular, cellular, and organismal levels.

Prerequisites: take CHEM-311.

CHEM-440 Advanced Materials Laboratory (1-3 cr.)

Fall and Spring

Student-devised laboratory experiments to solve a materials problem provided by the instructor.

Instructor's consent required.

Prerequisites: take CHEM-115, CHEM-125 or CHEM-135. **R**

CHEM-452 Environmental Regulations Management (3 cr.)

Fall, Spring and Summer

Laws governing environmental issues. Environmental regulations, applicability of the laws, and resources for interpreting the regulations. Evaluation of environmental research.

Prerequisites: take CHEM-115.

CHEM-470 Chemistry of Materials II (3 cr.)

Fall and Spring

Advanced principles of materials: diffusion, phase transformations, corrosion kinetics and failure analysis.

Prerequisites: take CHEM-301, CHEM-341, and MATH-250 or MATH-255.

COUN Counseling

COUN-400 Workshop in Counseling 1-3 cr.

Current specialized topics studied through experiential activities.
Equivalent to 439-600. **R**

COUN-405 Introduction To Basic Counseling Skills 3 cr.

Fall and Spring Semesters

Develop basic helping skills including active listening; problem solving, goal setting, and decision-making; conflict resolution; information giving; assertion skills; and making referrals. Applicable when basic counseling is an appropriate helping response and also in any interpersonal relationship, including people with disability and ethnic diversity issues. Equivalent to COUN-405, 439-405, 413-405.

COUN-406 Peer Supervisory Experience 1 cr.

Fall and Spring Semesters

Experience in observation and feedback to peers undergoing counseling skill training. Instructor's consent required. **R**

COUN-447 Assessment and Treatment of Eating Disorders 2 cr.

Description and diagnostic criteria for anorexia nervosa, bulimia nervosa, obesity, and compulsive overeating. Psychological, sociological, and familial influences on the development of the disorders. Assessment instruments, approaches, and treatment considerations.

COUN-494 Counseling Older Persons 2-3 cr.

Spring Semesters

Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences. Equivalent to 439-694, 413-694.

CS Computer Science

CS-140 Computer Concepts (2 cr.)

Fall, Spring and Summer

Introduction to computing; history of computers, hardware, software and terminology; components and functions of computers; programming concepts and basic applications; running programs written by others; writing programs in basic time-sharing language.

CS-141 Computer Programming – Basic (2 cr.)

ANRSN/MATH

Fall, Spring and Summer

Beginning computer programming using BASIC: input, output, flow of control, arrays, files, and subprograms.

CS-142 Computer Programming For Multimedia 1 (3 cr.)

Fall

Programming and scripting for multimedia authoring including text, graphics, sound, video, animation, graphical user interfaces, and user interaction. Scripting techniques including lists, functions, and even handlers. Multimedia packaging for CD and Web distribution.

CS-143 Computer Programming For Multimedia 2 (3 cr.)

Fall

Multimedia authoring techniques including behavior scripts, internet data access, dynamic sprite operations, and object-oriented scripting. Multimedia web techniques including design principles, site management, text, images, links, frames, sound, video, and cascading style sheets. Scripting techniques such as JavaScript, behaviors, forms, input validation, and applications.

Prerequisites: take CS-142.

CS-144 Computer Science I (3 cr.)

ANRSN/MATH

Problem-solving and algorithm development using a high-level programming language. Computer organization, programming language and programming, elements of programming style, documentation, introduction to structured programming.

CS-145 Computer Science II (3 cr.)

Problem-solving and algorithm development using a high-level language. Structured programming concepts, debugging and testing, string processing, searching and sorting, elementary data structures, recursion and files.

Prerequisites: take CS-144.

CS-241 Assembly Language Programming (3 cr.)

Fall and Spring

Basic concepts in computer systems including computer structure, machine language, assembly languages, addressing techniques, macros, file I/O, program segmentation and linkage.

Prerequisites: take CS-145.

CS-244 Data Structures (4 cr.)

Fall and Spring

Concepts and foundations of data structures and algorithms. Introduction to analysis of algorithms and linear structures, vectors, linked lists, stacks, queues and priority queues. Non-linear data structures such as trees, tree traversals, binary trees, binary search trees and graphs. Advanced sorting and searching techniques. Hashing, heaps.

Prerequisites: take CS-145.

CS-248 Web and Internet Programming (3 cr.)

Fall and Spring

Design and implementation of web and internet software systems using current programming languages, scripting languages, and interface standards. Network programming and client/server applications. Event-driven programming, multi-threading, exception handling, windows programming and multimedia programming. Support for database access via web programs.

Prerequisites: take CS-145.

CS-341 Data Structures (3-4 cr.)

Fall and Spring

Review of set theory, functions and relations; basic concepts of data; lists, strings and arrays; representation of graphs and trees; storage systems and structures; symbol tables and searching techniques; sorting (ordering) techniques.

Prerequisites: take CS-145.

CS-342 Survey of Programming Languages (3 cr.)

Fall and Spring

Programming languages and language design. Comparative study of three modern high level languages and their application strengths for systems programming, embedded computer systems and artificial intelligence.

Prerequisites: take CS-241, CS-341.

CS-343 Mathematical Foundations of Computer Graphics (3 cr.)

Fall, Spring and Summer

Fundamental hardware, software, mathematics, data structures and algorithms for computer graphics.

Prerequisites: take CS-241, CS-341, MATH-158, MATH-275.

CS-345 Image Processing (3 cr.)

Spring

Theory and applications of digital image processing. Mathematical foundations and algorithms for enhancement, restoration, compression, segmentation and reconstruction from projections.

Prerequisites: take MATH-255, MATH-275, CS-341, STAT-332.

CS-346 Simulation Modeling and Analysis (3 cr.)

Fall and Spring

Simulation as a problem-solving technique; models, analysis and languages for simulation; data collection; random variate generation; verification and validation; output analysis; optimization of systems.

Prerequisites: take CS-341, STAT-332.

CS-441 Computer Organization (3 cr.)

Fall

Hierarchical organization of a computer system: CPU, memory, I/O modules. Detailed analysis of the CPU and control unit implementation.

Prerequisites: take CS-241, CS-341.

CS-442 Systems Programming (3 cr.)

Spring

Design, organization and case studies of major systems software: assemblers, loaders, linkers, macro processors, compilers, and operating systems. Relationship between machine architecture and system software.

Prerequisites: take CS-441.

CS-443 Database Systems Manipulation and Design (3 cr.)

Fall and Spring

Conceptual and logical organization of data, data models, data manipulation and data definition languages, and design of databases. Distributed database systems; integrity, constraints, concurrency, security, and query optimization.

Prerequisites: take CS-341.

CS-448 Software Engineering (3 cr.)

Spring and Summer

Software development lifecycle, programming languages and environments, program testing, documentation, software management and organization. Class software development project.

Prerequisites: take CS-341.

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CTE Career and Technical Education

CTE-301 Preservice Workshop for Career and Technical Educators (1 cr.)

Introduction to the basic concepts of teaching courses in Wisconsin career and technical education.

CTE-302 Principles of Career and Technical Education (2 cr.)

Fall, Spring and Summer

Philosophy, organization and administration of career and technical education, nationwide, in Wisconsin and on the local level.

CTE-334 Performance Analysis (3 cr.)

Fall, Spring and Summer

Analysis techniques utilized in curriculum development. Emphasis on task analysis and related

procedures. Includes occupational and needs analysis, competency identification, objective writing and information mapping. Integrates task analysis with a total system for developing and revising career and technical education curriculum or job training programs.

CTE-337 Competency-Based Education: Career and Technical (2 cr.)

Fall and Spring

Competencies for career, technical and adult education programs and courses. Development of competency-based education performance indicators in all domains, a competency-based education management system, and basis for competency-based education evaluation.

CTE-346 Seminar (1-3 cr.)

Fall, Spring and Summer

Current topics in career, technical and adult education with application for personnel in the field. Instructor's consent required.

CTE-359 Technology Impacts Occupational Programs (4 cr.)

Summer

Presentation of latest technology in communications, manufacturing, construction, and/or transportation which involve concepts from math, science and computer science. **R**

CTE-360 Cooperative Occupational Education Programs (2 cr.)

Spring and Summer

Philosophy, organization, coordination and teaching techniques or cooperative education programs in the various career and technical areas. Roles, responsibilities and duties of the cooperative teacher coordinator.

CTE-375 Workshop (1-3 cr.)

Fall, Spring and Summer

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

CTE-405 Methods of Teaching Career and Technical Education (2 cr.)

Fall and Summer

Competency-based and individualized approach to methods of teaching career and technical education.

CTE-408 Student Teaching in Career and Technical Education (4-8 cr.)

Directed teaching and community experiences at off-campus, postsecondary institutions. Consent of Program Director.

CTE-438 Course Construction for Career and Technical Educators (2 cr.)

Fall and Summer

Competency-based and individualized approach to principles of course construction for career and technical educators.

CTE-440 Instructional Evaluation in Career and Technical Education (2 cr.)

Spring and Summer

Competency-based and individualized approach to instructional evaluation for career and technical educators.

CTE-474 Adult Education (2 cr.)

Fall

Philosophy and history of adult education in the United States. Techniques for teaching adults: psychological factors, methods, adult interests and characteristics.

CTE-488 Career and Technical Education Internship (1-8 cr.)

Fall, Spring and Summer

Consent of Program Director.

DES Design

DES-200 Design Theory and Methods (3 cr.)

Fall and Spring

A study and application of various techniques and theories of design to fundamental design problems. Prerequisites: take ART-101 and ART-103.

DES-205 Presentation Techniques (3 cr.)

Fall and Spring

Experience in the various techniques of visually developing and presenting a design.

Prerequisites: take ART-100.

DES-210 Letter Form Design (3 cr.)

Fall

Design of letterforms, figures, and visual symbols; history and development of type; calligraphy; page composition for various formats and audiences. Prerequisites: take ART-100 and ART-101.

DES-220 Computer Imagery (3 cr.)

Fall, Spring and Summer

Creative use of digital technology: the design of 2D images and illustrations in both hard copy and digital formats, using bitmap, vector, layout programs, and HTML editors. Corequisite courses: ART-101.

DES-231 Industrial Design Methodology, Analysis and Visualization (3 cr.)

Fall and Spring

An overview of design skills and their application to the resolution of product design problems in Industrial Design. Prerequisites: take DES-200 DES-205. Corequisite courses: DES-232.

DES-232 Human Body and Form (3 cr.)

Fall and Spring

Utilize existing human factors research methods, anthropometrics, application of data, task assessment and critical fit issues in relationship to the body as well as conduct original research while practicing industrial design.

Prerequisites: take DES-200 DES-205.

DES-256 Art Workshop(1-3 cr.)

Fall, Spring and Summer

Selected art concepts, processes and media will vary to serve special student populations. Credit determined by individual contract. **R**

DES-303 Interior Design (3 cr.)

Fall and Spring

Design and development of interior spaces with a sensitivity to human interaction, materials, and furnishing.

Prerequisites: take ART-103 or BURL-229; take DES-205, AEC-131, and AEC-233.

DES-304 Interior Design II (3 cr.)

Fall and Spring

Design problems for interior spaces with emphasis on concepts, human interaction, and materials. Prerequisites: take RD-205 or DES-303.

DES-308 Lighting Design in the Built Environment(3 cr.)

Fall

Exploration of lighting design as it affects aesthetic, color, and environmental perceptions. Ecological, practical, and qualitative aspects of lighting design.

Prerequisites: take DES-303. **\$**

DES-310 Graphic Design I (3 cr.)

Fall and Spring

Study and creation of visual images used to inform and/or persuade specific audiences.

Prerequisites: take ART-101 and DES-210 or DES-330.

DES-314 Interior Specifications I (3 cr.)

Fall

An introduction to interior design methods, materials, procedures and specifications.

DES-320 Interior Furniture Design (3 cr.)

Fall and Spring

Applied studio projects with structural, material, economic and aesthetic considerations in the design of contemporary furniture.

Prerequisites: take DES-303 or DES-340.

DES-325 Multimedia Web Design (3 cr.)

Fall, Spring and Summer

Introductory exploration of the web design process for artists and designers, including creative methodologies, development, and implementation of interactive multimedia for the internet.

Prerequisites: take ART-100, ART-101, and DES-220.

DES-330 Industrial Design I (3 cr.)

Fall and Spring

First course in the industrial design sequence providing an overview of design skills in their application to the resolution of product design problems.

Prerequisites: take DES-200, DES-205, or RD-205.

DES-331 Human Interface and Interaction (3 cr.)

Fall

Developing physical and digital interfaces in product design through exploration of user-centered methods of research.

Prerequisites: take DES-232 and MFGT-110.

DES-332 Art and Science of Production (3 cr.)

Fall and Spring

The investigation and redefinition of material and production paradigms and how they impact the user's perception of the meaning and function of the object.

Prerequisites: take DES-231 and DES-232.

DES-333 Professional Practice in Industrial Design (1 cr.)

Fall and Spring

Overview of the role of the professional industrial designer.

Prerequisites: take DES-231 and DES-232. **R**

DES-340 Industrial Design II (3 cr.)

Fall and Spring

Increased understanding of design as applied to the resolution of complex product design.

Prerequisites: take DES-330.

DES-345 Product Form Design (3 cr.)

Fall, Spring and Summer

Exploration of product forms through drawing and model-building techniques.

Prerequisites: take DES-200, DES-205, DES-330, and MFGT-103.

DES-360 Graphic Design II (3 cr.)

Fall and Spring

Application of social, business and ethical factors affecting visual communication, while increasing sensitivity and experience in graphic design.

Prerequisites: take DES-310 and DES-220.

DES-370 Interface Design (3 cr.)

Fall, Spring and Summer

Design of digital interfaces using visual aesthetics and end-user research methodologies to communicate information and enhance user experience in a variety of digital output forms.

Prerequisites: take CS-143, DES-325, and DES-360.

DES-372 3D Modeling and Animation I (3 cr.)

Fall and Spring

Basic 3D modeling, rendering, and animation techniques using virtual objects and visual aesthetics to define form and motion.

Prerequisites: take ART-103, ART-200 and DES-376.

DES-373 Digital Characters (3 cr.)

Fall and Spring

Study of 3D modeling and animation of digital characters and "artificial" life forms.

Prerequisites: take DES-372 and ART-301.

DES-374 3D Modeling and Animation II (3 cr.)

Fall and Spring

Intermediate to advanced level 3D modeling, rendering, and animation techniques using virtual objects and visual aesthetics to define form and motion.

Prerequisites: take DES-372. **R**

DES-376 Digital Narrative One: Animation and Video for Multimedia (3 cr.)

Fall and Spring

An introduction to the conception, design and creative implementation of animation and digital video for developing time-based narratives utilizing digital multimedia tools.

Prerequisites: take DES-220, DES-310, and MEDIA-430.

DES-377 Interactive Digital Content Design (3 cr.)

Fall and Spring

Exploration of emerging forms of interactive digital content through advanced multimedia design topic(s).

Prerequisites: take DES-370.

DES-380 Signage and Exhibition Design (3 cr.)

Summer

Organization and design of environmental graphics through the production of signage, display, and exhibition support systems.

Prerequisites: take DES-205 and DES-360.

DES-381 Advanced Computer Animation (3 cr.)

Fall and Spring

Advanced 3D modeling, rendering and animation techniques where student develop personal aesthetics and character forms.

Prerequisites: take DES-372.

DES-382 Information Design (3 cr.)

Fall and Spring

Envisioning information through the design and production of charts, diagrams, maps, and other hierarchical graphics.

Prerequisites: take DES-360.

DES-384 Advertising Design (3 cr.)

Fall and Spring

Graphic design principles and creative concepts as applied to advertising art.

Prerequisites: take DES-205 and DES-360.

DES-385 Interactive Design (3 cr.)

Fall and Spring

Advanced design of digital interfaces and interactive systems focusing on visual aesthetics in a variety of output forms with various electronic devices.

Prerequisites: take DES-370.

DES-386 Publication Design (3 cr.)

Fall and Spring

Graphic design principles as applied to the combination and coordination of art and typography with text.

Prerequisites: take DES-360.

DES-388 Typographic Design (3 cr.)

Fall and Spring

Design of grid-based, hierarchical and expressive typographic structures; analysis of historical and theoretical precedents.

Prerequisites: take DES-360.

DES-405 Advanced Presentation Techniques for Designers (3 cr.)

Fall and Spring

Techniques and skills for presentation and communication of visual materials; advanced perspective, mixed-media rendering, transparent watercolor rendering, gouache rendering applied to presentation of product's interiors and exteriors.

Prerequisites: take DES-205.

DES-410 Product and Packaging Graphics (3 cr.)

Design and application of graphics to products, packages, and related display systems.

Prerequisites: take DES-360.

DES-414 Interior Specifications II (3 cr.)

Spring and Summer

Advanced interior design specification and construction documentation, incorporating elements of current professional practice.

Prerequisites: take DES-314.

DES-415 Environmental Interior Design I (3 cr.)

Analysis and application of various office systems as they apply to and are a part of an architectural setting.

Prerequisites: take DES-304.

DES-416 Environmental Interior Design II (4 cr.)

Advanced interior design topics, with extensive projects, including all phases of current interior design professional practice and incorporation into student portfolio.

Prerequisites: take DES-415.

DES-430 Industrial Design III (4 cr.)

Fall and Spring

Advanced design problems chosen by consultation between student and instructor.

Prerequisites: take DES-345 and DES-340.

DES-431 System, Environment and Context (3 cr.)

Fall

Advanced industrial design problems researching system design with consideration of contextual and environmental issues.

Prerequisites: take DES-331.

DES-432 Theory, Society and Application (3 cr.)

Fall and Spring

Advanced design problems applying the theory of design to societal issues.

Prerequisites: take DES-331 and DES-332.

DES-440 Industrial Design IV (4 cr.)

Fall and Spring

Professional level of understanding and skill applied to advanced design problem chosen in consultation between student and instructor.

Prerequisites: take DES-430.

DES-451 Interior Design Practicum (3 cr.)

Fall and Spring

Work experience with an interior designer or in design-related field arranged with interior design work experience coordinator.

Prerequisites: take DES-303.

DES-456 Advanced Art Workshop (1-3 cr.)

Selected art concepts, processes and media will vary to serve special student populations. For students familiar with workshop approach or advanced in art program. Credit determined by

individual contract. **R**

DES-480 Senior Project -- Graphic Design (4 cr.)

Exploration of an advanced graphic design topic through an extensive project: research, production specification, and development of a presentation system. Instructor's consent required. Prerequisites: take either DES-360 and DES-380 or take DES-360 and DES-410.

DES-490 Senior Project Multimedia Design (4 cr.)

Fall and Spring

Approved advanced Multimedia topic(s) explored through the completion of professional level project(s), from concept to published digital media. Multimedia Design students only. Prerequisites: take DES-370 and MEDIA-430 and take DES-384 or DES-385.

DES-497 Field Experience (1-2 cr.)

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ECE Early Childhood Education

ECE-100 Introduction to Early Childhood Programs (1 cr.)

Fall and Spring

History of early childhood programs for children through age 8, developmentally appropriate practice, current issues, professionalism, employability skills and attitudes, career exploration. Early Childhood majors only.

ECE-303 Developmentally Appropriate Practice: Infants and Toddlers (3 cr.)

Fall

Developmentally appropriate practices for teaching with infants and toddlers in group settings. Contrast of appropriate and inappropriate practices. Emphasis on play, creativity, health and safety, integrated curriculum, appropriate teaching strategies, assessment, program models, and writing lesson plans for infants and toddlers. Observations required. Prerequisites: take HDFS-124.

ECE-307 Developmentally Appropriate Practice: Preschool (4 cr.)

Fall and Spring

Developmentally appropriate teaching practices with preschool children in group settings. Play, creativity, health and safety, integrated curriculum, teaching strategies, assessment, program models and lesson plans. Observations and practicum required. Education Majors: Benchmark I completed. Prerequisites: take HDFS-124.

ECE-309 Developmentally Appropriate Practice: Kindergarten -- Primary (2 cr.)

Fall and Spring

Developmentally appropriate teaching practices in kindergarten through grade 3 in group settings. Play, creativity, health and safety, integrated curriculum, teaching strategies, assessment, program models and lesson plans. Observations required. Education Majors: Benchmark I completed. Prerequisites: take HDFS-124.

ECE-364 Observing and Guiding Children: Early Childhood Classrooms (3 cr.)

Fall and Spring

Essential elements in guiding children in early childhood classrooms. Positive guidance strategies, introduction to early childhood classroom management, effects of guidance on children's social

and emotional development, developing an eclectic approach. Power, process, ethics, methods of observing, documenting children's behavior, progress, development. Observation and participation in early childhood classrooms required. Minimum cumulative grade point average 2.75. Education majors must have passed PPST. Prerequisites: take PSYC-110, HDFS-124, and ECE-303.

ECE-410 Early Childhood Curriculum: Science (3 cr.)

Fall and Spring

Methods and materials for assessing, planning, implementing and evaluating science curricula for early childhood (birth-grade 3). Emphasis on science process skills while fostering foundational knowledge in all science areas. Education Majors: Benchmark I completed.

Prerequisites: take ECE-303 and ECE-307 and ECE-309.

ECE-411 Early Childhood Curriculum: Mathematics (3 cr.)

Fall and Spring

Mathematics curriculum planning for early childhood (birth through 3rd grade), including selection, organization, presentation, and evaluation of appropriate curricula. Education Majors: Benchmark I completed.

Prerequisites: take ECE-303 and ECE-307.

ECE-412 Early Childhood Curriculum: Social Studies (3 cr.)

Fall and Spring

Methods and materials for assessing, planning, implementing and evaluating social studies curriculum for early childhood (birth-3rd grade). Education Majors: Benchmark I completed.

Prerequisites: take ECE-303 and ECE-307 and ECE-309.

ECE-413 Language Arts and Emergent Reading I: Birth-Kindergarten (3 cr.)

Fall, Spring and Summer

Developmentally appropriate strategies and materials for planning, implementing, and evaluating language arts. Emphasis on developing emergent literacy skills and language arts with children Birth through Kindergarten. Education Majors: Benchmark I completed.

Prerequisites: take ECE-303.

ECE-414 Early Childhood Clinical Experience: Integrated Curriculum (2 cr.)

Fall and Spring

Development of competencies in planning, teaching, and evaluating the integrated curriculum for the early childhood period. Participation in an early childhood setting required. Education Majors: Benchmark I completed.

ECE-421 Administration of Early Childhood Programs (2 cr.)

Fall

A study of program organization, program design, staffing, licensing, certification, equipment and facilities for operating early childhood education programs. Field trips required.

ECE-426 Advanced Classroom Management and Guidance (3 cr.)

Fall and Spring

Advanced study of managing early childhood classrooms. Management of the physical environment, instructional context, including large and small groups, and social context. Building a classroom community and encouraging collaborative learning. Assessing management of early childhood classrooms. Analysis of classroom management programs. Observation/participation in early childhood classrooms required.

Prerequisites: take ECE-364.

ECE-427 Child Abuse and Neglect (2 cr.)

Fall

Systemic nature, forms and indicators, and prevention of abuse/neglect. Factors contributing to, and intervention skills in, coping with the effects of abuse/neglect on children and families at risk.

ECE-433 Language Arts/Reading -- Early Childhood Education (3 cr.)

Fall and Spring

Current philosophies, methodology and materials for teaching reading: readiness activities and beginning reading in early childhood.

ECE-435 Children, Families, Schools and Communities (3 cr.)

Fall, Spring and Summer

Building family, school, and community partnerships to support children's well being and educational success. Theories and processes used to establish positive home-school-community relations.

ECE-464 Special Topics in Early Childhood Curriculum(1-3 cr.)

Philosophy and methodology of early childhood education: problems confronting teachers.

R

ECE-480 Student Teaching: Infant, Toddler, Preschool (8 cr.)

Fall and Spring

Full-day student teaching in a school setting for one quarter, based on the university calendar, with infants, toddlers, or preschoolers. Includes parent interaction and seminar sessions. Professional program admission required.

ECE-480A Student Teaching in Preschool Programs (4 cr.)

Fall and Spring

Directed teaching and community experience in selected early childhood centers.

ECE-480B Student Teaching in Kindergarten (4 cr.)

Fall and Spring

Directed teaching and community experience in selected kindergartens.

ECE-488 Intern Teaching (16 cr.)

An alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one full semester.

ECE-492 Student Teaching in Prekindergarten (8 cr.)

Fall, Spring and Summer

Full-day student teaching experience at the prekindergarten level in a preschool setting, together with a weekly one-hour student teaching seminar session. The student teaching experience follows the calendar of the preschool. Not available to students who have taken ECE-480A and/or 212-490. Early Childhood majors only. School of Education permission required. Prerequisites: take HDFL-335 and HDFL-344 and ECE-433.

ECE-493 Student Teaching: Kindergarten (8 cr.)

Fall and Spring

Full-day student teaching in a school setting for one quarter based on the host school's calendar with kindergarten age children. Includes parent interaction and seminar sessions. Professional program admission required.

ECE-494 Student Teaching: Primary (8 cr.)

Fall and Spring

Full-day student teaching in a school setting for one quarter based on the host school's calendar in grade 1, 2 or 3. Includes parent interaction and seminar sessions. Professional program admission required.

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ECON Economics

ECON-201 General Economics 3 cr.

SBSCI ECON Fall and Spring Semesters

Introduction to basic elements of economics; analysis of institutions, issues and policy; theories of price, national income and employment. Not open to students taking ECON-210 and ECON-

215. Equivalent to ECON-210, 320-210, 320-201.

ECON-210 Principles of Economics I 3 cr.

SBSCI ECON Fall, Spring and Summer

Tools of basic economic analysis including scarcity, cost, and demand and supply; macroeconomic issues such as economic growth, inflation, and unemployment; alternative macroeconomic theories; and fiscal and monetary policies. Equivalent to ECON-201, 320-210, 320-201.

ECON-215 Principles of Economics II 3 cr.

SBSCI ECON Fall, Spring and Summer

Theory of individual economic behavior; price determination; market structures; labor, capital and natural resource markets; international economics; and current microeconomic topics. Equivalent to 320-215. P: ECON-210.

ECON-335 Personal Investing 3 cr.

Terminology, evaluation, selection and risk analysis of all types of investment vehicles: stocks, bonds, mutual funds, and enhanced traded funds. P: ECON-201 or ECON-210.

ECON-410 Microeconomics 3 cr.

Fall and Spring Semesters

Value and distribution theory; analysis of demand-firm, industry and utility; pricing of production factors. Equivalent to 320-410. P: ECON-215.

ECON-415 Macroeconomics 3 cr.

Fall and Spring Semesters

Determination of aggregate income, employment, growth rates and price levels; monetary and fiscal policies necessary for full employment. Equivalent to 320-415. P: ECON-215.

ECON-420 Labor Economics 3 cr.

Fall, Spring and Summer

Basic labor theory; history of organized labor in western industrial societies; collective bargaining as viewed by labor, management, government and public; institutions involved in modern labor relations. Equivalent to 320-420. P: ECON-201 or ECON-210.

ECON-421 Collective Bargaining and Labor Relations Relations 2 cr.

Fall, Spring and Summer

Introduction to collective bargaining in the U.S.; formation, substance and administration of a labor agreement, current labor law, role of National Labor Relations Board. Equivalent to 320-421. P: ECON-201 or ECON-210.

ECON-435 Money, Banking, Financial Markets 3 cr.

Fall and Spring Semesters

Money and bank credit, modern monetary theories, monetary policy. Equivalent to 320-435. P: ECON-201 or ECON-210.

ECON-445 Public Finance 3 cr.

Spring Semester

Public finance at all governmental levels; taxation, expenditures, debt management and fiscal policy. Equivalent to 320-445. P: ECON-201 or ECON-210.

ECON-480 International Economics 3 cr.

Fall and Spring Semesters

Survey of current issues such as changing world financial situations, international agreements and organizations, and other topics related to trade models, tariffs, exchange rates and balance of payments. Equivalent to 320-680. P: ECON-210.

EDUC Education

EDUC-303 Educational Psychology 3 cr.

Introduction to the psychological aspects of the educative processes. Emphasis on application of basic psychological principles to teaching. Focus on learner, learning process, and the teacher as an agent for change. Benchmark I completed. Equivalent to 421-303, 421-303A, 479-303.

Prerequisites: take PSYC-110.

EDUC-305 Teaching Practicum 2 cr.

Fall, Spring and Summer

Practical experience in developing the prospective teacher's ability in specific well defined teaching skills. Equivalent to 421-305. Prerequisites: take EDUC-307.

EDUC-307 Applied Human Relations 2 cr.

ESC

Fall, Spring and Summer

An experiential course focusing on major themes affecting human relations. Equivalent to 421-205, 421-507.

EDUC-310 Field Experience - Tutoring 1 cr.

Supervised one-on-one or small group teaching experience in a school or other educational setting in response to the special needs of students with learning difficulties. Emphasis is on precision teaching, individualized instruction, and alternative strategies. Benchmark I completed. Equivalent to 421-310.

EDUC-312 Introduction to Curriculum, Methods, and Assessment 2 cr.

Fall and Spring

Principles and practices of curriculum development, instructional methods, and measures of assessment of learning; including issues of and approaches to curriculum and curriculum development; methods of effective teaching; purposes, methods, and measures of assessment. Minimum Cum GPA 2.75. Educ Mj must have passed PPST. Equivalent to 421-312.

EDUC-326 Foundations of Education 2 cr.

Historical background, status, trends, and organization of U.S. education; understandings vital to students before they begin student teaching. Includes professional roles, expectations, rewards and frustrations, resources, control, finance and philosophy. Equivalent to 421-326.

EDUC-336 Multiculturalism: Issues and Perspectives 2 cr.

ESA

Intensive study of diversity in U.S. schools. Examination of the educational needs of students from various ethnic, cultural, religious, language and social class groups. Discussion of issues related to racism, sexism and oppression. Benchmark I completed. Equivalent to 421-536, 421-536A.

EDUC-376 Field Experience: Cross-Cultural Experience 1 cr.

Supervised one-on-one or small group experience in a school or other setting in response to a special academic or social need with representatives of one or more of the following designated ethnic minority groups--African-Americans, Asian-Americans, Pacific Islander-Americans, American Indians and Hispanic-Americans; and various socio-economic groups, specifically the low-income. Benchmark I completed. Equivalent to 421-576.

EDUC-380 Reading and Language Arts in Elementary Education 3 cr.

Current philosophies in reading and language arts education, the centrality of language arts to the elementary curriculum and methodologies for the elementary classroom. Benchmark I completed. Equivalent to 421-580. Corequisite courses: EDUC-381.

EDUC-381 Preclinical: Elementary Education Language Arts and Reading 1 cr.

Supervised teaching experience in developing the prospective teacher's ability in elementary education language arts and reading skills. Benchmark I completed. Equivalent to 421-581. Corequisite courses: EDUC-380.

EDUC-382 Secondary Reading and Language Development 2 cr.

Effective utilization of reading and language development methodologies in secondary content

area classrooms. Benchmark I completed. Equivalent to 421-582. Prerequisites: take EDUC-303.

EDUC-400 Workshop: Special Topics in Education 1-3 cr. R

EDUC-415 Classroom Management 2-3 cr.

Technique and theory for motivating Pre-K through grade 12 age students to manage their own behaviors, including preventive discipline, behavior management, classroom environment, classroom climate, effective communication, conflict resolution, and peer mediation. Must be taken concurrently with variety of field experiences. Benchmark I completed.

EDUC-430 Ojibwe Lifeways 2-4 cr.

ESA Summer

Indepth, interactive study of Ojibwe culture within a Wisconsin reservation community. Equivalent to 421-630. \$

EDUC-495 Personal Learning Experience 2 cr.

An experimental program for juniors and seniors. By permission of program directors. Each student selects an area of life which involves ethical decision and investigates that decision-making process. The group enrolled for this experience meets with the directors twice a week for direction, discussion, and criticism. Self-evaluation paper at the close of the course, which is submitted to the critique of the directors and other members of the learning experience. Equivalent to 421-495.

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ELEC Electricity/Electronics

ELEC-204 Electricity/Electronics Fundamentals 3 cr.

Fall, Spring and Summer

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.
P: MATH-120.

ELEC-260 Electrical Circuits 3 cr.

Fall and Spring Semesters

Concepts and analysis techniques in DC and AC circuit analysis including current, voltage, resistance, capacitance, inductance, impedance, loop and node equations, transients, network theorems, real, reactive and apparent power in AC circuits.
P: PHYS-211 MATH-153.

ELEC-271 Digital Logic and Switching 3 cr.

Fall, Spring and Summer

Analysis and synthesis of combinational and sequential switching circuits. Boolean algebra and number systems, switching functions, minimization, single and multiple output networks, realization of functions, programmable logic devices. Finite state sequential machines, state transition diagrams, machines and state equivalence. Algorithmic state machines and asynchronous state machines.
P: ELEC-204 or ELEC-260.

ELEC-272 Solid State Electronics 3 cr.

Fall and Spring Semesters

Basic semiconductor theory dealing with signals, operational amplifiers, diodes, bipolar junction and field effect transistor, frequency response, feedback, and circuit analysis.

ELEC-274 Fundamentals of Microprocessors and Microcomputer Systems 3 cr.

Fall and Spring Semesters

Concepts of microprocessors, microcomputer architecture, assembly language programming and peripheral components. Hardware topics include 80 x 86 processors, interrupts, bios, serial and parallel interfaces, video displays, hard drives, CD ROMs, memory devices and local and peripheral buses.

P: ELEC-271, CS-144.

ELEC-281 Circuit Devices and Logic 3 cr.

Fall and Spring Semesters

DC and AC circuit analysis in transient and steady state conditions. Introduction to computer aided analysis of circuits, devices and logic. Basic digital and analog circuitry including gates, sequential logic and amplifiers.

P: MATH-153, PHYS-241.

ELEC-290 Circuits and Devices 4 cr.

Spring Semester

Electrical and electronic circuits and devices. Analysis of circuits containing passive and active components. Analog and digital circuitry including amplifiers and logic gates. Power calculations in alternating current circuits. Electro-mechanical energy conversion including DC and AC machinery. Lab activities include use of base test equipment and the construction of simple electronic circuits. P: MATH-154 PHYS-282.

ELEC-303 Electronics Circuits, Devices and Applications 3 cr.

Fall and Spring Semesters

Concepts and analysis techniques in DC and AC circuit analysis, basic electronics theory, devices, logic and systems, including capacitance, inductance, impedance, circuit equations, network theorems, signals, op-amps, transistors, and circuit analysis. Number systems, combinational logic, minimization, programmable logic devices, state machine algorithms, transition diagrams, asynchronous and synchronous sequential logic.

Prerequisites: take MATH-153 PHYS-242.

ELEC-340 Motors and Generators 2 cr.

Fall and Spring Semesters

Practical approach to basic operating theory, construction, maintenance of generators, motors, transformers, and machine control.

P: ELEC-204.

ELEC-341 Electrical and Mechanical Interface Devices 3 cr.

Spring Semester

Introduction to control system technology of discrete processes with emphasis on the devices that interface between electrical and mechanical systems. Theory and applications of sensors, actuators, schematics, state charts, ladder diagrams, programmable logic controllers, and PC based data acquisition and control. Prerequisites: # take ELEC-204 or ELEC-260, and take PHYS-241 and POWER-260.

ELEC-352 Microcomputer/Microprocessor Concepts 3 cr.

Fall and Spring Semesters

Basic concepts underlying programmable devices. An integrated treatment of microprocessor/microcomputer in both hardware and software. Assembly language programming, peripheral and memory interfacing concepts.

P: ELEC-281.

ELEC-382 Electronic Communications 3 cr.

Fall and Spring Semesters

Electrical/electronic communication systems, modulation, demodulation, R.F. and I.F. amplifiers, alignment, antennas, composite TV signal, receivers, transmitters, spectral representation of signals, amplitude modulation, AM/FM transmitters, side band transmission, AM/FM receivers, and frequency modulation.

P: ELEC-204.

ELEC-395 Seminar 1-2 cr.

Fall, Spring and Summer

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. **R**

ELEC-445 Automation and Control Application 3 cr.

Theoretical and practical concepts behind control system elements and operations.

Programmable logic controllers, ladder logic development. Input and output devices, description and interfacing.

P: ELEC-352.

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ENGL English

ENGL-090 Writing Workshop (3 cr.)

This is a remedial writing course that provides individual instruction to meet basic competencies for entry into English 101. Students will write paragraphs and short essays that will prepare them for college-level writing. They will also be given instruction in grammar, usage, punctuation and mechanics. Students must receive a C or better in this course in order to register for English 101. Although this course does not count toward graduation, it is included in the student's course load, fees, and grade point average.

ENGL-101 Freshman English – Composition (3 cr.)

COMSK/WRIT

Fall, Spring and Summer

Principles and practices of writing; documented paper. Placement Test Required.

ENGL-102 Freshman English – Reading and Related Writing (3 cr.)

COMSK/RDG

Fall, Spring and Summer

Readings focused on a theme reflected in literature. Topics and approaches developed by each instructor; opportunity for responsible, independent study; requires intensive practice in composition.

Prerequisites: take ENGL-101 or ENGL-111.

ENGL-111 Freshman English – Honors I (3 cr.)

COMSK/WRIT

Fall and Spring

Readings in world literature and related writing for training in composition techniques; documented paper. Placement Test Required.

ENGL-112 Freshman English – Honors II (3 cr.)

COMSK/RDG

Fall and Spring

Continuation of ENGL-111.

Prerequisites: take ENGL-101 or ENGL-111.

ENGL-113 Honors Seminar I (3 cr.)

COMSK/WRIT

Fall and Spring

Intensive reading and writing that examines topics in world literature from Shakespeare to the present.

Prerequisites: take ENGL-101 or ENGL-111.

ENGL-121 Introduction To Technical Communication (3 cr.)

Fall

Trends, opportunities, and technologies used in technical communication. Rhetorical dimensions of technical documentation as well as ethical and social responsibilities.

ENGL-125 Professional Writing Elements of Style (3 cr.)

(Fall, Spring and Summer)

Develop stylistic fluency through study of interaction of rhetoric, style, and grammar. May not be substituted for any required English composition course.

Prerequisites: take ENGL-101 or ENGL-111.

ENGL-207 Writing For the Media (3 cr.)

Fall

Theory and practice of writing for the media.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-210 Journalism Practicum(1 cr.)

Fall and Spring

Work on regularly published newspaper and submit articles for evaluation and publication.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113. **R**

ENGL-218 Mass Communication: Effects of the Technology On Society (3 cr.)

TECH

Fall

The ideological and social implications of mass communication technology.

Prerequisites: take ENGL-101 or ENGL-111.

ENGL-225 Editing Processes and Practices (3 cr.)

Spring

Comprehensive editing, copy editing, proofreading, and style selection; review of standard written English grammar and usage.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113; and take ENGL-125.

ENGL-245 Creative Writing (3 cr.)

HUM/CRPRF

Fall and Spring

All aspects of imaginative writing. Prerequisites: take ENGL-102, ENGL-112 or ENGL-113. **R**

ENGL-247 Critical Writing (3 cr.)

COMSK/WRIT

Fall and Spring

The art of evaluation and judgment; writing critical reviews and articles; documented critical paper.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-312 International Technical Communication (3 cr.)

Fall, Spring and Summer

Theories and practical approaches to writing international technical documents, including globalization, localization, and translation preparations and procedures.

Extensive use of case studies and cultural models. Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

ENGL-317 Topics in Journalism (1-3 cr.)

Intensive study of and practice in topics in journalism.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-320 Business Writing (3 cr.)

Fall and Spring

Written communication in business: practice in writing memos, letters, electronic correspondence, reports and other practical communication.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-330 Feature Writing (3 cr.)

Fall and Spring

Plan, research and create feature articles for newspapers, magazines and online publications; develop research tools and writing skills; observe ethical and legal considerations in writing.

Prerequisites: take ENGL-207.

ENGL-340 The Structure of English (3 cr.)

New analytic and descriptive methods applied to modern English.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-342 Creative Writing II (3 cr.)

Advanced practice in creative writing that builds on skills taught in ENGL-245 Creative Writing, focusing on genre specific texts.

Prerequisites: take ENGL-245.

ENGL-343 Rhetoric of Technology (3 cr.)

TECH

Fall and Spring

Study of the way in which published information influences the development and dissemination of technology.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-361 Hypertext Writing (3 cr.)

Fall and Spring

Investigate writer and audience interaction in a hypertext environment. Gain exposure to and utilize markup languages to maximize audience participation in websites and other hypertext documents. Research, production and testing of an original website and hypertext essays.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-371 Advanced Rhetoric (3 cr.)

Fall, Spring and Summer

The evolution of rhetoric and application of classical and contemporary rhetorical principles to contemporary rhetorical problems, technical as well as traditional.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-385 Document Design (3 cr.)

Fall

Approaches to transmitting information in print and screen documents through the application of rhetorical and design principles. Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

ENGL-388 Writing Multimedia (3 cr.)

Fall, Spring and Summer

Writer and audience roles in planning and creating multimedia documents containing text, movie clips, sound clips, and still images. Develop proficiency in hardware and software of multimedia creation by researching, producing and testing original project.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-415 Technical Writing (3 cr.)

Fall, Spring and Summer

On-the-job writing for business and industry; reports, letters and other documents.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-425 Usability Design and Testing (3 cr.)

Fall and Spring

Plan, design, and conduct tests, measure effectiveness and efficiency of written and online documents; examine methodology and application of usability testing to demonstrate its value and importance. Prerequisites: take ENGL-415.

ENGL-430 Writing For Content Management (3 cr.)

Fall and Spring

Concepts and practices of content management systems for the creation and production of technical communication both in print and online. Includes document workflow, globalization and translation of content for assembly of relevant documents. Uses case studies and client-based projects. Prerequisites: take ENGL-415.

ENGL-435 Writing Technical Manuals (3 cr.)

Fall, Spring and Summer

Production of a technical manual — planning procedure, collecting information, analyzing audience, writing and field testing.

Prerequisites: take ENGL-415.

ENGL-437 Technical Writing Practicum (1-3 cr.)

Fall, Spring and Summer

Plan, write and produce a technical document for a client. Principles of document design, clear writing for a specific audience, methods of determining client needs, and methods of producing the final document. Prerequisites: take ENGL-415. **R**

ENGL-438 Writing Practicum For Early Childhood Education (1 cr.)

Creation of professional letters, newsletters, and other written documents for future early childhood educators. Early Childhood majors only.

Prerequisites: take ENGL-102, ENGL-112or ENGL-113.

ENGL-440 Writer At Work Seminar (2 cr.)

Summer

Introduction to and practice in the professional side of creative writing, including but not limited to publication, reading, writers conferences and grant writing. Instructor's consent required.

Prerequisites: take ENGL-342.

ENGL-471 Technical Communication and Consulting (3 cr.)

Fall, Spring and Summer

Working for clients, setting rates and estimating costs, investigating and contacting markets, contacting and interacting with editors, handling taxes and insurance,

copyright, intellectual property, job search for freelance or corporate jobs.

Practical networking; global dimensions of and new trends in technical communication. Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

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FCSE Family and Consumer Sciences Education

FCSE-101 Introduction to Family and Consumer Sciences Education (2 cr.)

Fall

Contribution of Family and Consumer Sciences to development of individuals and families; responsibilities of a Family and Consumer Sciences professional.

FCSE-201 Teaching Methods in Family and Consumer Sciences Education (2-3 cr.)

ESC Fall and Spring

Presentation strategies appropriate in the field family and consumer sciences education.

Background check required.

FCSE-300 Externship: Family and Consumer Sciences Community Education (4-8 cr.)

Fall and Spring

Practicum in one or more of the following family and consumer sciences education programs: extension services, elementary education, post-secondary education, occupational teaching experience and community educational services. Approval of graduate program director required if taken for graduate credit. Consent of program director.

FCSE-301 Family and Consumer Sciences Education Curriculum (3 cr.)

Fall and Spring

Development of curriculum to meet needs of students in family and consumer sciences education programs. Education majors: Benchmark I completed.

Corequisite courses: FCSE-360.

FCSE-320 Career and Technical Education Programs in Family and Consumer Sciences Education (2 cr.)

Fall and Spring

Techniques, materials and curriculum for family and consumer sciences education wage-earning programs in secondary and post-secondary schools, preliminary procedures for program development. Education majors: Benchmark I completed.

FCSE-341 Clinical Experience in Schools (1 cr.)

Fall and Spring

Supervised experience in classroom teaching for development of motor, perceptual, social and cognitive learning through family and consumer sciences education substantive areas. Education majors: Benchmark I completed. **R**

FCSE-360 Family and Consumer Sciences Education/Family Life Evaluation (2 cr.)

Develop evaluation for family and consumer science education subject matter and critical thinking skills. Not applicable to occupational certification. Education majors: Benchmark I completed.

Corequisite: FCSE-301.

FCSE-380 Consumer Economics (3 cr.)

Spring

Personal and family consumer economics for family and consumer education programs; management of human and non-human resources in achieving personal, family and community goals.

Prerequisites: take ECON-201 or ECON-210.

FCSE-385 Family Housing (3 cr.)

Fall

Individual/family's housing needs and resources as a basis for family and consumer education programs. The impact of historical, environmental, social, cultural, and technological, aesthetic, and design influences.

FCSE-397 Field Experience in Family and Consumer Sciences Education (2 cr.)

Fall, Spring and Summer

Field experience related to family and consumer sciences education skills and knowledge used in teaching wage-earning courses at secondary level.

FCSE-448 Student Teaching — Family and Consumer Sciences Education (8-16 cr.)

Fall and Spring

Student teaching practicum in K-12 settings in family and consumer sciences education/family life. Consent of program director. Minimum cumulative GPA 2.75.

Prerequisites: take FCSE-301, FCSE-360.

FCSE-451 Family Life Education Programs (2 cr.)

Fall and Spring

Development of family life education programs including methods, materials and techniques for teaching family relationships and child development at the secondary level.

FCSE-488 Internship Teaching (8-16 cr.)

Fall and Spring

Alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one semester.

Prerequisites: take FCSE-301.

FCSE-497 Field Experience in Family and Consumer Sciences Education (2 cr.)

Field experience related to family and consumer sciences education skills and knowledge used in teaching wage-earning courses at secondary level.

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FN Food and Nutrition

FN-101 Dietetics as a Profession 1 cr.

Fall

Survey of types of dietetic and foodservice administration programs in the United States; role and function of staff; professional literature.

FN-102 Nutrition For Healthy Living 2-3 cr.

HPE HLTH

Fall and Spring

Food selection and eating patterns/standards, applied nutrition knowledge and interrelationships, nutrition information source analysis, weight management, the nutrition- exercise-fitness connection. Analysis of personal lifestyle and food patterns in relationship to optimal physical and mental well being.

FN-106 Nutrition in the Hospitality Industry 2 cr.

Fall and Spring

Basic principles with application to the hospitality industry. Basic physiological nutrition; cultural and psychological influences on food preference. Interpretation of nutrition information, food composition data, and discussion of appropriate products and services. Nutrition analysis and programming on and off the computer will be stressed. Not appropriate for students with credit in FN-202 or FN-212.

FN-111 Food Systems and Technology Futures 1 cr.

Fall

Introduction to food systems and technology with emphasis on trends, career opportunities and competencies required for success in the concentration areas of food systems management, food science, food merchandising and distribution and food communication.

FN-115 Principles of the Food Industry 2 cr.

Analysis of food processes, procedures, and regulations. Application to protocols of the food industry. Appreciation of safety and health food service products.

FN-124 Foods 4 cr.

Fall and Spring

Scientific principles and application in the selection, preparation and service of food.

FN-202 Food and Beverage Distribution Industry 3 cr.

An introductory course for students in the field of food and beverage merchandising and distribution. A study of history, evolution, classification, manufacture/production, packaging, distribution, and merchandising with an emphasis on trends and employment. Resource persons from industry and field trips will be utilized.

FN-207 Medical Terminology 1 cr.

Fall and Spring

Medical terminology for allied health occupations. Self-paced instruction utilizing a word-building system to learn word parts used to construct or analyze new terms. Emphasis on spelling,

definition, usage and pronunciation.

FN-208 Management of Food Production 3 cr.

Fall and Spring

Development and application of management principles to decision making in small batch food production which is based on menu driven concepts. Prerequisites: take one group: take FN-124 and FN-212, or take FN-212 and FN-240.

FN-212 Nutrition 3 cr.

Fall and Spring

Basic principles of nutrition applied to current issues in health maintenance. Prerequisites: take BIO-132 or BIO-134, and take CHEM-115 or CHEM-125.

FN-215 Art and Science of Food 3 cr.

Fall and Spring

Analysis and application of food principles applied to storage, preparation and service. Special emphasis on food safety and the art of food preparation. Prerequisites: take HT-121.

FN-220 Outdoor Cooking 1 cr.

Food preparation principles in cooking and serving outdoors; equipment for outdoor food preparation; foods for camping, backpacking and canoe camping; preparing wild game and gathering and preparing wild foods.

FN-222 Food Technology 2 cr.

TECH GLP

Fall, Spring and Summer

Food processing technology and how it impacts society, individual health and well-being, environment and the future; technological innovations and new developments to meet the changing requirements of society and increasing global demand for food.

FN-225 Spec Topics in Food and Nutrition 1-2 cr.

Summer

Study of special topics in food and nutrition. Equivalent to 229-225. **R \$**

FN-236 Nutrition For Young Children 1-2 cr.

Fall, Spring and Summer

Impact of nutrition on growth, development and health of young children. Assessment of nutritional status, changing needs and eating patterns, the link between nutrition, dietary practices, and behavior, and translating current nutrition information into effective nutrition education strategies for children. Prerequisites: take FN-102 or FN-106.

FN-240 Food Science 4 cr.

Fall and Spring

Physical and chemical changes affecting selection, preparation and service of food. Prerequisites: take CHEM-201.

FN-260 Menu Planning and Design 2 cr.

Fall

Principles of menu planning, design and production for commercial and institutional food establishments.

FN-310 Lifespan Nutrition 3 cr.

Spring

Nutrition concepts and concerns associated with each lifespan stage; integration of social, psychological, cultural, economic, and legislative factors to develop issue-centered approaches to meet nutrition needs.

Prerequisites: take FN-102 or FN-106, and take one course in Biology.

FN-312 Nutritional Assessment 2 cr.

Fall and Spring

Introduction to basic components of nutritional assessment as applied to individuals. Prerequisites: take FN-212 and CHEM-311.

FN-320 Advanced Nutrition 3 cr.

Fall and Spring

Principles of human nutrition applied to individual, family, community and world problems.
Prerequisites: take FN-212 and CHEM-311.

FN-325 Special Topics in Food and Nutrition 1-3 cr.

Fall and Spring

Study of special topics in food and nutrition. **R**

FN-342 Advanced Foods 3 cr.

Fall

Comparative studies of food selection and preparation; appraisal of foods. Prerequisites: take FN-124 or FN-240.

FN-350 Food Processing 3 cr.

Spring

Industrial methods used to prepare and preserve food. Prerequisites: Take FN-124 or FN-240; take MATH-120 and BIO-306; take CHEM-115 or CHEM-125 or CHEM-135.

FN-355 Sports Nutrition 3 cr.

Spring

Nutritional and metabolic requirements of physical activity. Metabolic fuel utilization during exercise and physiological adaptations to exercise training will be discussed. The health and well-being benefits of an optimal diet-exercise regime will be emphasized.

Prerequisites: take FN-320 and CHEM-311; take BIO-132 or BIO-134.

FN-360 Nutrition Counseling: A Team Approach 3 cr.

Fall and Spring

Inter-disciplinary team approach to individual and group client-centered nutrition counseling which includes assisting and advising clients on dietary information. Skills and techniques based on nutrition counseling theories that are most useful to registered dietitians in enhancing quality of life and planned nutrition intervention. Prerequisites: take FN-212.

FN-380 Community Nutrition 3 cr.

Fall and Spring

Current status and legislation of community nutrition programs. Assessment of community needs and resources, program planning, funding, and evaluation. The role of the community nutritionist/home economist to help individuals, families, and communities solve nutrition problems. Prerequisites: take FN-212.

FN-397 Field Experience 2 cr.

FN-397C Field Experience Seminar: Dietetics 1-2 cr.

Field experience related to the dietetic areas. Prior approval of field position, 320 hours of work experience, and seminar. Written reports required for two-credit option.

FN-397E Field Experience: Dietetics 1 cr.

Field experience related to the dietetic areas. Prior approval of field position, 320 hours of work experience, and seminar. Written reports required for two-credit option.

FN-406 Nutrition Education 3 cr.

Fall and Spring

Nutrition education as planned behavioral change: problems and solutions in instructing various populations; identification, development and evaluation of nutrition resources. Prerequisites: take FN-320 and FCSE-201.

FN-408 Preprofessional Development in Dietetics and Nutrition 1 cr.

Fall

Provides a step by step, efficient and effective process toward completion of application of Supervised Practice Programs (Dietetic Internship), graduate school, or employment. Junior status or higher. **R**

FN-410 Food and Nutrition Policy Regulation and Law 3 cr.

Fall

Food and nutrition policy development and evolution. Key acts and agencies governing food regulation and law. Process of creating or changing law. Compliance and enforcement rules in

inspection, labeling, export and import. Administrative practice in food law including proceedings and judicial review.

FN-413 Maternal and Child Nutrition 3 cr.

Fall

Application of principles to maternal, infant, child and adolescent nutrition.

Prerequisites: take FN-212 and BIO-132, or take FN-212 and BIO-234.

FN-414 Catering 3 cr.

Spring

Theory and application of operational and managerial principles for on/off-premise catering for special events. Cannot be taken for credit by students who have previously taken HT-424.

Prerequisites: take FN-124 or FN-240.

FN-415 Nutritional Issues in Gerontology 3 cr.

Theory and relationships of nutrition, longevity and aging. Food and nutrition legislation for the elderly--theory and implementation. Nutritional implications of acute and chronic disease states common among the elderly. Prerequisites: take FN-320 and CHEM-311.

FN-417 Medical Nutritional Therapy I 3 cr.

Fall

Principles and methods for use in certain pathological conditions or chronic and acute disease processes. Incorporates principles of medical nutritional therapy in nutrition assessment, diet prescription, medications, care plans and documentation. Prerequisites: take FN-207, FN-212, FN-312, FN-320, and BIO-362.

FN-418 Medical Nutritional Therapy II 4 cr.

Fall and Spring

Principles and methods for use in certain pathological conditions or chronic and acute disease processes. Incorporation of the principles of nutrition assessment, diet prescription, medications, care plans, and documentation into the management of disease processes.

Prerequisites: take FN-320, BIO-362, FN-212, FN-207, and FN-312.

FN-418 Diet Therapy 4 cr.

Fall and Spring

Principles and methods for use of diet as therapy in certain pathological conditions. Prerequisites: take FN-320 and BIO-362.

FN-420 Food Styling 1-3 cr.

Fall

Food as media for artistic expression; effective use of color, form and texture. Prerequisites: take FN-124 or FN-240. **R**

FN-431 Readings in Food Science and Nutrition 1-2 cr.

Critical reading, evaluating, and reporting from pertinent current journals and other publications.

R

FN-438 Experimental Foods 3 cr.

Fall and Spring

Experimentation with selected food materials, techniques and equipment; directed study in individually chosen area. Prerequisites: take FN-124 or FN-240; take CHEM-115 or CHEM-125 or CHEM-135.

FN-442 Basic Sensory Analysis 3 cr.

Spring

Basic understanding of the psychobiology and physiology of senses and the role both play in consumer product acceptance. Basic tests of sensory analysis, including both objective trained panel difference tests and subjective preference/acceptance tests. Appropriate for all majors who produce products for/or merchandise to consumers. Prerequisites: take FN-124 or FN-240.

FN-450 Food Engineering 3 cr.

Fall

Application of pertinent chemistry, physics and mathematics principles to food processing. .

Prerequisites: take CHEM-201, MATH-153, MATH-154, and FN-350.

FN-461 Multicultural Aspects of Food and Nutrition Patterns 3 cr.

ESC Fall and Spring

Food and nutrition patterns as influenced by social, religious, geographical, economic and political factors. Cultures emphasized include Native American, African American, Hispanic and Asian American. Food as a means of cross-cultural communication.

Prerequisites: take FN-124 or FN-240.

FN-470 Food Distribution Operations and Control 3 cr.

Current trends and management strategies in the distribution of food and beverages, from manufacturer to consumer. Prerequisites: take FN-202 BUMKG-330.

FN-497C Field Experience: Food Systems and Technology 1 cr.

Seminar: analysis, interpretation and synthesis of food systems and technology principles through a written paper and oral seminars following 320 hours of field work in an approved position. Integrates synergistic principles/activities from program courses and among concentrations.

FN-497E Field Experience: Food Systems and Technology 1 cr.

Food systems and technology area field experience. Approved field position, 320 hours of work experience, and development of concept/outline for written analysis paper.

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FREN French

FREN-101 Elementary French I (4 cr.)

COMSK LANG FGLP Fall

Listening, pronunciation, reading, and writing. Basic vocabulary, polite phrases, questions and answers. Adjective agreement, present and some past-tense verbs. Cultural information about the French-speaking world.

FREN-102 Elementary French II (4 cr.)

COMSK LANG FGLP Spring

Second level of understanding, speaking, reading, and writing in French. Introduction to future, conditional, imperfect and subjunctive verbs. Direct and indirect object pronouns. Short spontaneous and directed conversations. Topics in cultures of French-speaking people. One year of high school French or FREN-101 required.

FREN-121 Practical French I (2 cr.)

FGLP Fall and Spring

First quarter college French. Conversational phrases and vocabulary for practical situations. Basic present tense verb patterns. Intensive pronunciation drill. Not for students who have taken FREN-101.

FREN-122 Practical French II (2 cr.)

COMSK LANG FGLP Fall and Spring

Second quarter college French, conversational phrases and vocabulary, irregular and past tense verb patterns. Not appropriate for students who have completed FREN-101 (328-101). One year of high school French or FREN-121 Required.

FREN-123 Practical French III (2 cr.)

COMSK LANG FGLP Fall and Spring

Third quarter college French. Imperfect and reflexive verbs, direct and indirect object pronouns, commands, conversational vocabulary. (Not for student who have complete FREN-102.) One year of high school French or FREN-101 required.

FREN-124 Practical French IV (2 cr.)

COMSK LANG FGLP Fall and Spring

Fourth quarter college French. Future, conditional and subjunctive verbs. Introduction to relative pronouns. Conversational vocabulary. (Not for students who have completed FREN-102.)

FREN-201 Intermediate French I (4 cr.)

HUM FLC FGLP Fall

Vocabulary development through readings and discussion on French and Francophone civilization. History, art, music, short stories and poems, including contemporary culture. Taught in French. Two years of high school French or FREN-102 required.

FREN-202 Intermediate French II (4 cr.)

COMSK LANG FGLP Spring

Grammar review, contemporary vocabulary, free conversation in French. Three years of high school French or FREN-201 required.

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GCM Graphic Communications Management

GCM-101 Introduction To Graphic Communications Management (1 cr.)

Fall and Spring

Introduction to graphic communications management trends, opportunities, and technologies in the graphic communications industry. Instructor's consent required. GCM majors only.

GCM-141 Graphic Communications (3 cr.)

Fall, Spring and Summer

Overview of the graphic communications industry and hands-on introduction to production workflow from design through delivery. Digital prepress (desktop publishing), printing processes, postpress and finishing, raw materials, buying and specifying printed products.

GCM-151 Prepress Tools and Processes (3 cr.)

Fall, Spring and Summer

Digital prepress tools and processes for print reproduction. Prepress software, image capture/creation, pagination, imposition principles, film assembly, proofing, and platemaking.

Prerequisites: take GCM-141.

GCM-251 Digital Prepress File Creation (3 cr.)

Fall, Spring and Summer

Digital creation, capture and manipulation of graphics for color layouts for print and digital distribution. Prepress systems, workflow, color theory, file and font management, document layout, proofing, imposition, and submission of files for output.

Prerequisites: take GCM-151 or DES-220.

GCM-266 Digital and Offset Press Systems (4 cr.)

Fall and Spring

Imaging paper or other substrates via offset lithography and digital printing methods from an output-ready digital file. Image carriers, press systems, process control, densitometry, colorimetry, ink, toners, and substrates. Reproduction of line and halftone copy, in multiple and process colors.

Prerequisites: take GCM-141.

GCM-270 Postpress Operation and Planning (3 cr.)

Fall and Spring

Current and emerging technologies for postpress operations in bindery and finishing. Postpress production and job planning from the postpress perspective. Quality control tools and techniques as applied to postpress operations.

Prerequisites: take GCM-141.

GCM-300 Workshop (1-3 cr.)

Fall, Spring and Summer

Special topics in graphic communications, providing hands on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

GCM-351 Digital Prepress Workflow Management (3 cr.)

Fall and Spring

Digital prepress processes and services offered by graphic communications service providers. Integrated systems, scripting, automation, XML utilization, variable data digital printing and personalization, asset management, digital distribution alternatives, and prepress network and workflow management.

Prerequisites: take GCM-251.

GCM-356 Color Electronic Prepress (3 cr.)

Fall, Spring and Summer

Electronic capture, manipulation, and evaluation of color images for presentations and print production. Work flow, system, and file management issues faced in complex page layout.

Prerequisites: take 1 option: take GCM-141 and GCM-151, or take GCM-141 and DES-220.

GCM-362 Screen and Specialty Print Manufacturing (3 cr.)

Fall and Summer

Applications and techniques for screen and specialty printing on a variety of substrates. Issues and process-control concerns related to these image transfer methods.

Prerequisites: take GCM-141. **\$**

GCM-363 Package Printing (3-4 cr.)

Fall and Spring

The production of graphics on labels, cartons, and flexible packages with an emphasis on flexography and rotogravure. Present and future technology trends in package printing.

Prerequisites: take GCM-141. **\$**

GCM-367 Reproduction Measurement and Control(3 cr.)

Fall and Spring

Concepts and techniques of controlling the tone reproduction of pictures during printing. Press fingerprinting process and application of tone correction curves to printed images. Color management concepts and techniques. Statistical Process Control as applied to the measurement and control of variability in printing.

Prerequisites: take GCM-266 and either STAT-130 or STAT-320. **R**

GCM-380 Graphic Communications Estimating and Scheduling (3 cr.)

Fall and Spring

Graphic communications production issues including production cost, estimating practices, labor issues, production scheduling and coordination.

Prerequisites: take GCM-251, GCM-266, and GCM-270; and take BUACT-201or BUACT-206.

GCM-443 Graphic Communications Practicum (3 cr.)

Fall, Spring and Summer

Integration of all graphic communications manufacturing processes in the design and manufacture of printed products. Special emphasis on the process and workflow management roles of estimating, customer service, scheduling, planning, production supervision and quality control.

Prerequisites: take GCM-251, GCM-266, and GCM-380. **R**

GCM-445 Publication Production (3 cr.)

Fall, Spring and Summer

Cross-discipline work teams experience integration of skills developed in English, speech, art, graphic communications, industrial management and business courses to design, plan, schedule, produce and distribute and actual magazine.

Prerequisites: take GCM-141.

GCM-446 Digital Imaging (3 cr.)

Fall and Spring

Preparation, capture and manipulation of digital information for current and emerging digital distribution technologies. Repurposing of print media files for alternative distribution systems.

Prerequisites: take GCM-356.

GCM-475 Graphic Communications Cost Estimating (3 cr.)

Fall and Spring

Estimating production costs and establishing budget hourly rates and completion time for tasks associated with graphic reproduction. Utilization of a computer integrated manufacturing (CIM) information system to facilitate estimating and managing production processes based on data collected from manufacturing floor real-time terminals.

Prerequisites: take GCM-141, and take BUACT-200 or BUACT-206.

GCM-480 Graphic Communications Customer Service And Administration (3 cr.)

Fall and Spring

Administrative, management and leadership roles in directing of graphic communications manufacturing companies including sales, customer service, management, human resources, and training. Senior level or higher.

Prerequisites: take GCM-380.

GCM-495 Graphic Communications Management Seminar(3 cr.)

GLP

Fall, Spring and Summer

Overview of the graphic communications industry; its size, market segments, profitability and organization. Printing company annual reports are researched and analyzed. Strategic planning, management and leadership, industry trends and forecasts, trade organizations, news and other information sources. Impact of technology, global issues, and competing information distribution channels. Senior level or higher.

Corequisite courses: GCM-443. **R**

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GEM Golf Enterprise Management

GEM-101 Introduction to Golf Enterprise Management 1 cr.

Overview of the golf industry, national and international golf associations, careers in the golf industry, and the B.S. in Golf Enterprise Management.

GEM-201 Principles of Golf Enterprise Management 3 cr.

Comprehensive survey of golf facility operations and management from perspectives of resort, private, semi-private, and daily fee courses, to include principles of business and customer service, human resource management, course design and management, retail and back shop operations, food and beverage management, and event planning.

GEM-266 Golf Course Soils, Layout, and Designs 3 cr.

Fall and Spring

Golf course layout and design, soil characteristics that affect successful turf grass establishment and maintenance. Topics include soil components, soil physical and chemical properties, drainage, irrigation, golf course layout, design and construction, and risk assessment.

Prerequisites: GEM-101 and GEM-201

GEM-301 Customer Development, Retention and Marketing 3 cr.

Spring Semester

Trends and programs for golf course customer recruiting and retention, marketing strategies, conducting and applying market research including database and internet marketing for golf course customer development and retention in public fee, semi-private, private and resort facilities.

GEM-401 Golf Enterprise Management: Project Management 3 cr.

Tools, techniques, and challenges associated with planning and managing projects within a golf club setting, such as running a golf outing, club-house renovations, course changes, adding a second nine holes.

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GEOG Geography

GEOG Geography GEOG-104 World Geography 3 cr.

SBSCI GEOG Fall and Spring Semesters

Introduction to regional and cultural geography of the world; physical and human resources of major areas of the globe. Equivalent to 336-104.

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HIST History

HIST-120 Early United States History 3 cr.

HUM HIST ESB Fall, Spring and Summer

U.S. history to 1865: political, economic and social forces that have shaped the nation to close of Civil War. Equivalent to 338-120.

HIST-121 Modern United States History 3 cr.

HUM HIST ESB Fall, Spring and Summer

U.S. history since 1865: political, economic and social forces that have shaped the nation since close of Civil War. Equivalent to 338-121, 338-105.

HIST-140 Western Civilization 3 cr.

HUM HIST Fall and Spring

Survey of Western civilization along the Nile, the Fertile Crescent, through Greece, Rome, the Middle Ages, the Renaissance, and the Reformation.
Equivalent to 338-140.

HIST-141 Western Civilization 3 cr.

HUM HIST Fall and Spring

Survey of Western civilization from Reformation to present.
Equivalent to 338-141.

HIST-210 Modern World 3 cr.

HUM HIST Fall, Spring and Summer

Modern trends in terms of historical backgrounds as frame of reference for interpreting modern world. Equivalent to 338-210.

HIST-311 Women and War: A Global Perspective in the Modern Era 3 cr.

HUM HIST GLP Spring

Examines the lives and roles of women in conflicts from 1789 to the present during wars in Europe, Africa, Asia and Latin America, with minor focus on the United States.

HIST-321 United States Women's History 3 cr.

HUM HIST ESB Fall and Spring

Political, economic, and social contributions of women to United States history. Examination of the historical interaction of ethnicity, class, and sexual orientation with gender. Strong focus on the changes in gender expectations and the historical creation of stereotypes and inequality.

HIST-322 African-American History 3 cr.

HUM HIST ESA Fall and Spring

Social, cultural, economic and political history of African-Americans, with special focus on the United States. Equivalent to 338-322.

HIST-330 History of World War II 3 cr.

HUM HIST Fall and Spring Semesters

Causes, conduct and effects of World War II. Equivalent to 338-330.

HIST-350 History of the Vietnam War 3 cr.

HUM HIST ESC Fall and Spring

American role in the Vietnam War, particularly goals, objectives and dilemmas faced by American policymakers; roles and contributions of American men and women in the military and in civilian society; development and impact of the anti-war movement; and long-term consequences of the war on American culture and society.

HIST-360 Asian History 3 cr.

HUM HIST Fall and Spring

Survey of political, social, religious and economic history of Asia, India, China, Japan and the Philippines in modern world. Equivalent to 338-360.

HIST-380 Latin American History 3 cr.

HUM HIST

Political, social and economic history of Middle and South America, pre-Columbian to present. Equivalent to 338-380.

HIST-460 History Methods 2 cr.

Fall and Spring

Historiography and application of the historical method, including the study of teaching methods, instructional materials, and evaluation techniques. History minors only. Equivalent to 338-460.

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HLTH Health

HLTH-101 Discovering Wellness 1 cr.

HPE HLTH Fall and Spring Semesters

Introduction to the components and benefits of high level wellness; includes self-assessment and

the development of an action plan for lifetime wellness.

HLTH-340 ARC Standard First Aid and Personal Safety 2 cr.

Fall, Spring and Summer

American Red Cross certification in standard first aid and personal safety; increase personal safety and accident-prevention knowledge; learn to administer emergency first aid to self or others.

HLTH-346 ARC Cardiopulmonary Resuscitation .5 cr.

Fall, Spring and Summer

Techniques of basic life support: Recognizing respiratory and/or cardiac arrest and properly administering cardiopulmonary resuscitation (CPR) to maintain life. Successful completion results in 1-year certification in ARC basic life support course in CPR.

HLTH-350 Prevention and Care of Athletic Injuries 3 cr.

Fall Semester

Provides prospective physical education and/or coaching professional with basic understanding of prevention, treatment and care of athletic injuries.

Prerequisites: HLTH-340; and BIO-142, BIO-134 or HLTH-355.

HLTH-355 Kinesiology 3 cr.

Fall Semester

Body movements and principles affecting them.

Prerequisite: BIO-132.

HLTH-365 Physiology of Exercise 3 cr.

Spring Semester

Effects of exercise on sports participants: heat stress, body composition, nutrition, cardiovascular function, energy expenditure, respiratory mechanics and ventilation factors.

Prerequisite: BIO-132 or BIO-134.

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HT Hospitality and Tourism

HT-100 Introduction to Hospitality 2 cr.

GLP

Fall and Spring

Exploration of the major components and organization structure of the hospitality industry.

Presents historical development, opportunities and current trends. Stresses the importance and relationship of education and work experience to career success. Examination of the key components in various industry sectors including food service, lodging, tourism, gaming, and property management.

HT-121 Principles of Foodservice Operations 2 cr.

Fall and Spring

Professional segments of foodservice operations: history, types of operations, functions, facilities design, equipment, basic cooking principles, dining room service, and management concepts.

HT-130 Housekeeping Procedures 2 cr.

Fall and Spring

Management principles applied to duties and responsibilities for hourly and management personnel in hotels, motels, institutions and other hospitality enterprises.

HT-133 Front Office Operations 3 cr.

Fall and Spring

Principles required to organize and operate hotel or motel front office guest needs, salesmanship and procedures for different types of front office operations.

HT-135 Lodging Systems 3 cr.

Fall and Spring

Examination of the basic skills needed in a lodging facility. Specific roles, functions, and policies pertaining to the Rooms Division.

HT-140 Principles of Tourism 3 cr.

GLP

Fall, Spring and Summer

Scope, structure, and function of tourism as an industry and a sociocultural phenomenon; industry components and the importance of maximizing costs to its stakeholders.

HT-150 Institutional Food Purchasing 2 cr.

Fall and Spring

Methods of large-quantity food purchasing: determining standards, specific needs and industrial offerings; formulating specifications, buying procedures and controls. Prerequisites: take HT-121 or FN-240, and take FN-115.

HT-200 Hospitality Organization Management 3 cr.

Fall and Spring

Management principles for hotels and restaurants, supervisory development and training, labor relations, managerial interpretation and evaluation of current systems and procedures.

Prerequisites: take HT-100.

HT-240 Tourism Goods and Services 3 cr.

GLP

Fall and Spring

Analysis of tourism goods and services in relationship to future patterns of supply and demand.

Prerequisites: take HT-140 ECON-210.

HT-250 Diversity Management in Hotel, Restaurant and Tourism 3 cr.

ESC

Fall and Spring

Analysis of multiculturalism and diversity in the hotel, restaurant and tourism workplace. Managing a diverse workforce in a logical and meaningful manner through understanding self perspectives, group identities, and workplace strategies.

Prerequisites: take HT-200.

HT-270 Introduction to Property Management 2 cr.

Fall, Spring and Summer

Management in commercial and multi-family property. Employees, management tools, government involvement, community development, clients, property law and tax requirements.

HT-315 Gaming Management 3 cr.

Overview of casino gaming operations in the hospitality and tourism industry from a global and local perspective. Must be 21 years or older and junior level or higher. \$

HT-316 Casino Operations Management 3 cr.

Fall and Spring

Functions and transactions associated with the gaming operations environment within a resort casino. Must be 21 years or older and junior level or higher.

HT-317 Psychosocial Issues in Gaming 3 cr.

Fall and Spring

A hospitality management and societal perspective of the pros and cons of gambling

entertainment. Must be 21 years or older and junior level or higher.

HT-323 Food Service Equipment 2 cr.

Fall, Spring and Summer

Factors affecting design, selection, physical facilities and utilities involved in foodservice equipment.

HT-324 Quantity Food Production 4 cr.

Fall, Spring and Summer

Quantity food production management concepts; menu planning, work production schedules, production analysis, food and labor cost controls, and sales projections, crisis and service management techniques; lab work in quantity food production and service; recipe development and introduction to productivity and work simplification concepts.

Prerequisites: take one of the following sets of course(s): HT-121 and FN-115, or FN-124, or FN-240

HT-326 Introduction To Wines and Spirits 3 cr.

GLP

Fall, Spring and Summer

Applied and historical knowledge of wines and spirits from different regions of the world; emphasis on preparation, selection, accompaniment with food, basic cost control analysis and service. Must Be 21 years or older. \$

HT-330 Resort Planning and Operation 3 cr.

Spring

Planning and operation of individual destination resorts. Analysis of resort concept, history, master planning, environmental impact, facility design, maintenance and operational management. Prerequisites: take HT-430. \$

HT-335 Lodging Operations Management 3 cr.

Fall and Spring

Investigation of supervisory roles in lodging management, with an emphasis on the importance of financial statements and their interpretation, human resources and productivity, and providing quality hospitality services within all types of lodging facilities. Prerequisites: take HT-135.

HT-340 Development of Tourism Attractions 3 cr.

Fall and Spring

Diversified natural and man-made background tourism elements (BTE): preservation and incorporation of concepts for development of tourism destinations. Prerequisites: take HT-140 and ECON-210.

HT-344 Hospitality and Tourism Marketing and Sales 3 cr.

Fall and Spring

Analysis of marketing strategies and sales techniques, promotional tools, and research for hospitality and tourism development. Must be junior level or higher.

HT-351 Hospitality Convention/Meeting Planning 3 cr.

Fall, Spring and Summer

The roles and responsibilities of professional hospitality meeting planners and hotel convention sales/service managers are examined for purposes of planning or hosting a major convention, or a corporate, association, or special group meeting event. Prerequisites: take HT-251.

HT-352 Club Management 3 cr.

Fall

Managing a membership, city, health and fitness, military, golf, or other social or recreation club. Junior level or higher.

HT-353 Computer Systems for Food Service 3 cr.

Fall, Spring and Summer

Functions of computers in a variety of food service operations with specific emphasis on spreadsheets and food service application software. Experience using state-of-the-art technology and microcomputers. Prerequisites: take HT-324 and HT-362.

HT-360 Tourism for Persons with Disabilities 2 cr.

Fall and Spring

Strategies to accommodate the inclusive and special hospitality and travel preferences of persons with disabilities within the hospitality and tourism industry.

HT-361 Hospitality and Tourism Accounting 3 cr.

Fall and Spring

Design and interpretation of specialized accounting and financial control systems in management decision making; uniform system of accounts, departmentalized costing procedures, statement analysis and interpretation. Prerequisites: take BUACT-206.

HT-362 Foodservice Finance and Cost Control 3 cr.

Fall, Spring and Summer

The use of financial techniques and systems to control food, beverage, and labor costs in hospitality food service operations. Prerequisites: take BUACT-206.

HT-370 Principles of Property Management 3 cr.

Fall and Spring

Property management fundamentals. Topics include ownership goals, management direction, finance and maintenance of multi-family and commercial properties.

HT-371 Commercial/Residential Property Development and Management 3 cr.

Spring

Exploring factors involved in developing and managing property, both residential and commercial, including undeveloped land. Topics include feasibility studies, financing, appraisal, leases, purchase agreements and management contracts. Prerequisites: take HT-370.

HT-374 Principles of Timeshare Management 3 cr.

Fall, Spring and Summer

Introduction to timeshare management; similarities and differences between timeshare operations and other hospitality businesses. Tourism influences on timeshare development.

HT-383 Yield Management 3 cr.

Fall and Spring

Investigation of the use of computer technology in the lodging industry for revenue planning, scheduling and performance evaluation. Specialized software will be used to analyze and evaluate hotel performance. Prerequisites: take HT-135, HT-200, and STAT-130.

HT-418 Casino Tourism 3 cr.

Fall and Spring

Research/travel and visits with Chambers of Commerce, casino management personnel, and governing entities to study economic, sociological and cultural impacts of gaming within a particular global or local region. Must be 21 years or older and junior level or higher. \$

HT-423 Wine and Food Pairing 3 cr.

GLP

Matching wine and food from different parts of the world using flavors, textures, and components present in food and wine as complementing strategies. Emphasis on menu planning, food preparation, cooking methods and wine tasting with foods. Prerequisites: take HT-326. \$

HT-424 Catering 3 cr.

Fall and Spring

Theory and application of operational and managerial principles for on- or off-premise catering for special events. Junior level or higher. Prerequisites: take FN-124 and FN-260.

HT-426 Restaurant Operational Management 4 cr.

Fall, Spring and Summer

Application of the principles of food and beverage management in full service restaurants existing as independent units or as units within a commercial/ noncommercial foodservice operation. The course will emphasize fine dining, fine cuisine and control systems. Prerequisites: take HT-324.

HT-427 Professionalism: Social and Work Environment 1 cr.

The application of necessary skills to be professional in social and work environments with

emphasis on professional dress, proper dining etiquette, business conversation, and job search techniques. \$

HT-430 Lodging Administration 3 cr.

Fall and Spring

Analysis of theories, principles and techniques of lodging management; problems and issues encountered by management in providing quality service within cost-efficient organization. Senior level or higher. Prerequisites: take HT-383.

HT-440 Sociocultural Systems of Tourism 3 cr.

Spring

Various psychosocial dimensions of tourism: motivation, development, community and conflict as related to consumer-tourists, tourists and residents. Senior level or higher.

HT-449 Cooperative Education/Internship 1-6 cr.

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

Prerequisites: take HT-200, HT-140, HT-324, and HT-362. R

HT-450 Food Service Administration 3 cr.

Fall and Spring

Organization and administration of institutional foodservice systems, personnel selection and training, cost control and problems of supervision.

HT-451 Integrated Management Systems -- Hospitality 2-3 cr.

Fall, Spring and Summer

Exploration, comparison and synthesis of practices, concepts and theories in hospitality management systems. Senior Level Or Higher.

HT-452 Hospitality Professionalism 2 cr.

Fall and Spring

Prepare hotel, restaurant and tourism students as professionals in a global community. Role-play emphasis on professional dress, dining etiquette, culture and business conversation, job search and placement techniques.

HT-454 Security and Risk Management For the Hospitality Industry \$ 3 cr.

Spring

Advanced investigation of security and risk management within hospitality/service industries.

HT-457 Hospitality Management Strategies 3 cr.

Fall, Spring and Summer

Comparison and synthesis of hospitality management strategies; concepts and theories in relationship to long-term hospitality business goals and objectives. Capstone course for senior-level hospitality and tourism students. Senior Level Or Higher. Prerequisites: take HT-362.

HT-460 Hospitality Industry Law and Liability 3 cr.

Fall and Spring

Laws applicable to ownership and operation of inns, hotels, motels, restaurants and other places of public hospitality.

HT-461 Hospitality Employee Relations 3 cr.

Fall and Spring

History and legal strategies and tactics in dealing with hospitality employees in both union and non-union settings.

HT-462 Hospitality -- Financial Analysis/Budget/ Forecasting 3 cr.

Fall, Spring and Summer

Application of accounting and financial analysis techniques to managerial decision-making in hospitality industry. Prerequisites: take BUACT-206, HT-361, and HT-362.

HT-470 Seminar in Property Management 3 cr.

Spring

Capstone course for Property Management. Preparation of a property management plan for a specific property. Discussion of current trends and industry problems. Exploration of development and operating strategies of property management firms.

HT-481 Special Problems in Hospitality and Tourism 1-3 cr.

Fall, Spring and Summer **R**

HT-492 Seminar in Hospitality and Tourism Management 3 cr.

An advanced course in management. The student will select and research a current topic of importance to the industry. **R \$**

HT-498 Hospitality and Tourism Field Experience 1-2 cr.

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Must have 90 credits completed.

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INMGT Industrial Management

INMGT-100 Introduction To Management (1 cr.)

Fall

Survey of management focusing on changes, challenges, opportunities, and management's roles in business and industry. Management program advisement, course sequence, and job opportunities. B.S. in Management majors only.

INMGT-120 Quality Concepts (3 cr.)

Fall, Spring and Summer

An introduction to quality, quality systems, and quality management through a survey of the various philosophies, principles, techniques and procedures used by various organizations and/or managers to assure customer satisfaction of product and/or service.

INMGT-200 Production and Operations Management (3 cr.)

Fall, Spring and Summer

A broad analytical "systems" viewpoint is used to develop competency in management decision-making and problem solving in an operations setting.

Prerequisites: take STAT-130, STAT-330 or STAT-320.

INMGT-210 Service Operations Management (3 cr.)

Examination of the environment in which services operate. The design of service delivery systems is addressed from the perspective of both customer participation and operations efficiency.

INMGT-220 Service Quality Assurance (3 cr.)

Determination of goals, management systems, and implementation methodologies for all aspects of service organization quality assurance.

INMGT-298 Field Experience (1-2 cr.)

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand business and industrial concepts and practices. **R**

INMGT-300 Engineering Economy (2-3 cr.)

Fall, Spring and Summer

Source and application of funds: cost control, valuation, depreciation, replacement theory and

taxation.

INMGT-301 Seminar (1-2 cr.)

Fall and Spring

(Title will reflect specific business or management content.) Current topics in business and industrial management to meet specific needs of students enrolled. **R**

INMGT-305 Resource Planning and Materials Management (3 cr.)

Fall and Spring

Principles and techniques for planning and managing materials and resources within organizations, and throughout a supply chain. Topics include: resource and material planning, forecasting, master planning, materials requirements planning, capacity management, purchasing, inventory management, distribution options, supply chain management and various operational management techniques.

Prerequisites: take INMGT-200, and take STAT-130 or STAT-320.

INMGT-310 Production Processing (3 cr.)

Fall and Spring

Production processes, especially product design as related to economic production; factors that influence choice and sequence of process to obtain end product. Prerequisites: take INMGT-200.

INMGT-314 Industrial Enterprise Practicum (3 cr.)

Fall, Spring and Summer

Organization and operation of an industrial company; election, designing, production planning, production, marketing and distribution of a product.

INMGT-320 Quality Tools (3 cr.)

Fall, Spring and Summer

Practical and statistical quality control in design and use of quality assurance programs: quality engineering, manufacturing quality assurance and product quality assurance.

Prerequisites: take INMGT-120, STAT-130.

INMGT-325 Quality Management (3 cr.)

Fall, Spring and Summer

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisites: take INMGT-120.

INMGT-335 Lean Manufacturing Systems (4 cr.)

Fall and Spring

Introduction to production/operations management and lean manufacturing system design for engineers. Emphasis is given to analysis and design of production systems, facility layout, and globalization. Prerequisites: take STAT-330.

INMGT-340 Time and Motion Study (1-3 cr.)

Fall, Spring and Summer

Methods design and work measurement. Development of work methods by applying motion analysis, charting techniques, principles of motion economy, and work station design. Includes direct stopwatch methods, predetermined time systems, and standard data. Managerial implications for labor relations considered. Prerequisites: take INMGT-200.

INMGT-350 Facilities Planning (3 cr.)

Fall and Spring

Study of facilities location, structure, and planning for efficient layout and material handling systems. Prerequisites: take INMGT-200.

INMGT-360 Benchmarking in Business and Industry (1 cr.)

WinTerM

Theory, benefits and procedures of successful benchmarking, including the related legal and ethical issues.

Prerequisites: take INMGT-200.

INMGT-365 Project Management (3 cr.)

Spring

Planning, scheduling, and control of technical projects. Topics covered include activity identification, network diagrams, scheduling, PERT/CPM, cost analysis, resource management, and computer control.

INMGT-370 Industrial Management Issues Seminar (2 cr.)

Fall and Spring

Current and emerging trends and issues in industrial management for students with a technical background who are preparing and planning for a career in leadership and management positions. 12 earned UW-Stout credits.

INMGT-400 Organizational Leadership (3 cr.)

ESC Fall, Spring and Summer

Overview of the leader's role in accomplishing organizational objectives through the management of human resources. Concepts of organizational and individual behavior serve as a foundation for the development of such leadership skills as communication, motivation, initiating change, team building, delegation, building credibility, and conflict management. Senior level or higher.

INMGT-401 Management Consulting (2 cr.)

Fall and Spring

The organization and analysis of major elements of the consulting profession in management: 1) subject matter expertise, 2) marketing, 3) organizational development, 4) business principles for consultants and 5) communication skills; synthesis of the interdependent relationship of the major elements in the consultation process.

INMGT-405 Resource Planning and Materials Management Practicum (3 cr.)

Provides students with specific skills in managerial techniques for planning, scheduling and controlling resources in manufacturing and service organizations. Focuses on the first two of the five required APICS exams that lead to certification as a Certified in Production and Inventory Manager (CPIM).

Prerequisites: take INMGT-305.

INMGT-410 Six Sigma Quality Improvement Methods (3 cr.)

Overview of Six Sigma quality improvement applications. Application of scientific methods to improve quality of products, service, processes, and management systems. Prerequisites: take INMGT-320, INMGT-325.

INMGT-415 Women and Minorities in Management (2 cr.)

ESB Fall

An examination of current status of women and minorities in management positions such as managerial styles of women and minorities, specific leadership techniques, and changing and leading organizations to minimize discrimination. Prerequisites: take 1 option: take SOC-110 and INMGT-400, or take SOC-110 and BUMGT-304.

INMGT-416 People Process Culture (3 cr.)

Fall and Spring

A study of high performing people process culture organizations integrating sociology, applied psychology, and organization behavior subject matter areas.

Prerequisites: take BUMGT-304, and take PSYC-382 or INMGT-400.

INMGT-420 Quality Assurance – Practicum (3 cr.)

Application of principles and techniques learned in INMGT-320, as part of professional semester/manufacturing laboratory. Prerequisites: take INMGT-320, INMGT-325.

INMGT-422 Quality Engineering (3 cr.)

Fall and Spring

Practical and statistical engineering methods to improve quality, reliability and design in a manufacturing environment.

Prerequisites: take INMGT-200, STAT-330; minimum grade C.

INMGT-430 Employee Involvements: Work Teams (2 cr.)

Summer

Background and history of employee involvement, teams as a method of employee involvement, analysis of the advantages and disadvantages of different team structures and the planning

processes used to implement team structures, analysis of situational variables used to help design the best team approach for an organization, the support systems needed to maintain teams, phases of team development, facilitation skills, and team problem-solving methods. Senior level or higher.

INMGT-435 Facilities and Material Handling Systems Design (2 cr.)

Fall and Spring

Analysis and design of facilities and material handling systems. Includes plant layout and material handling principles and equipment. For Manufacturing Engineering majors only.

Prerequisites: take INMGT-200; minimum grade C.

INMGT-440 Lean Enterprise (3 cr.)

Fall

Principles of lean techniques, justification of lean systems, how lean systems are scheduled, and cost analysis of a lean environment.

Prerequisites: INMGT-200

INMGT-450 Maintenance Management (2 cr.)

Fall, Spring and Summer

Organization and management of facilities management system: administration of maintenance forces, maintenance of personnel, planning and scheduling of work, maintenance of basic environmental systems, project control and cost control for maintenance operations.

INMGT-460 Industrial Management Capstone (3 cr.)

Summer

Principles and methods of analyzing and solving industrial problems; application through case studies, management games and special problems. Emphasis on emerging techniques and issues in industry. Senior level or higher.

INMGT-462 Global Manufacturing Study Tour (2-3 cr.)

GLP Summer

Visit global sites to understand the current state of product design, manufacturing, and distribution in both developed and developing countries. Learn how to develop supplier, manufacturing, and distribution systems in a global setting. Senior Level Or Higher.

INMGT-480 Production Systems Planning (2 cr.)

Fall and Spring

Plan of manufacturing systems utilizing contemporary techniques, such as: employee involvement, value analysis, compatibility with facilities and equipment, reliability, material requirements, scheduling, and risk control. Prerequisites: take INMGT-422.

INMGT-485 Production Management Practicum (2 cr.)

Fall and Spring

Application of principles and techniques of analyzing and solving production management problems learned in prior course work to manufacturing project in manufacturing laboratory. Instructor's consent required.

INMGT-489 Business and Industrial Intern (1-8 cr.)

Fall, Spring and Summer

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Junior level or higher. **R**

LIT-203 American Poets (3 cr.)

HUM/LIT ESB

Contemporary American writers of narrative, dramatic and lyric poetry.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-205 The Short Story (3 cr.)

HUM/LIT Fall

Style, structure, history and development of short story as a literary form.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-208 Fiction Into Film (3 cr.)

HUM/LIT ESC Fall and Spring

Selected works of literature and their film adaptations. Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-230 American Cinema (3 cr.)

HUM/LIT ESB

A literary and cultural examination of the development of cinema in the United States with special attention to the evolution of the cinematic treatment of non-dominant cultural groups.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-250 Classical and Biblical Literature in Translation (3 cr.)

HUM/LIT Fall and Spring

Selections from Greek, Hebrew and Latin literature.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-255 Recent World Literature (3 cr.)

HUM/LIT GLP

Selected readings in Contemporary Literature in Translation.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-260 Modern American Literature (3 cr.)

HUM/LIT ESB

Fall, Spring and Summer

Selected poetry, prose and drama produced since World War I.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-272 Women Writers (3 cr.)

HUM/LIT GLP Fall

Analyze writing of prominent American and British women novelists and poets of 19th and 20th centuries; criticism of women writers.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-273 American Multicultural Literature (3 cr.)

HUM/LIT ESA Fall, Spring and Summer

American multicultural literature, focusing on Hispanic, African, Asian, and Native American writers.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-280 Best-Sellers (3 cr.)

HUM/LIT Fall and Spring

Fiction and non-fiction best-sellers: expression of and impact on popular culture.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-281 Recent American Literature (3 cr.)

HUM/LIT ESB Spring

American poetry, fiction and drama since 1950.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-285 Science Fiction (3 cr.)

HUM/LIT

Critical survey of popular and classic science fiction.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-286 Detective Fiction (3 cr.)

HUM/LIT

Literary, historical and social implications of detective fiction from its inception to the present. Includes popular writers, literary writers, non-print media and criticism.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-300 Children's Literature (3 cr.)

HUM/LIT ESB

Fall and Spring

Critical survey and ways of presenting literature for children from infancy to age 12.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-301 English Literature (3 cr.)

HUM/LIT Spring

Selected prose and poetry from 1798 to modern times.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-302 Topics in Literature (1 cr.)

HUM/LIT

Intensive analysis of selected authors and literary works with emphasis on discourse analysis in group and workshop settings.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113. **R**

LIT-304 American Folklore (3 cr.)

HUM/LIT ESB Fall and Spring

Analysis and interpretation of stories, songs, jokes, and material culture of families, work groups, ethnic groups, and religious groups.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-306 Shakespeare (3 cr.)

HUM/LIT Spring

Several representative plays and selected criticism.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-350 Modern British Literature (3 cr.)

HUM/LIT GLP

Fall and Spring

Selected poetry, prose, and fiction produced since World War I.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-450 Studies in Literature (theme, Author, Genre) (2-3 cr.)

HUM/LIT Fall and Spring

A study of a selected writer's work or of literature focusing on a significant theme of literature or of a genre not offered as a distinct course of similar duration within the departmental curriculum.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113. **R**

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LOG Logic

LOG-250 Critical Thinking 3 cr.

Fall, Spring and Summer

Formulation, clarification and critical evaluation of claims: justification through non-formal

argumentational strategies.

LOG-301 Introduction to Logical Thinking 3 cr.

ANRSN LOGIC Fall and Spring Semesters

Problem-solving strategies based on induction and on categorical and propositional deduction.

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Revised: February 2007

MATH Mathematics

MATH-010 Fundamentals of Algebra 2 cr.

Fall and Spring Semesters

Review of fundamental principles of elementary algebra. Credit earned for MATH 355-010 will not count toward graduation.

MATH-110 Intermediate Algebra 4 cr.

Fall and Spring Semesters

Basic algebraic skills: factoring, exponents, rational expressions, linear equations and inequalities, systems of equations, quadratic equations, and an introduction to functions. One year of high school algebra and math placement test is required, or MATH-010..

MATH-118 Concepts of Mathematics 4 cr.

ANRSN MATH Fall, Spring and Summer

Elementary concepts in mathematical language and reasoning, sets, number systems and theory, algebraic equations, statistics and probability, geometry, computers; historical survey. One year of high school algebra and math placement test required, or Math-010.

MATH-120 Introductory College Mathematics I 4 cr.

ANRSN MATH Fall, Spring and Summer

Review of basic algebra, solving equations and inequalities, applications of equations and inequalities, functions and their graphs, polynomial equations, and systems of equations. Math placement test required, or MATH-110.

MATH-121 Introductory College Mathematics II 4 cr.

ANRSN MATH Fall and Spring Semesters

Continuation of MATH-120. Study of functions to include rational, exponential, logarithmic, and trigonometric functions and two dimensional analytic geometry. Math placement test required or MATH-120.

MATH-123 Finite Mathematics With Applications 4 cr.

ANRSN MATH

Real number system, systems of linear equations and inequalities, sets, functions, vectors, matrices, probability, linear programming, theory of games, Markov chains. Math placement test required, or MATH-110 or MATH-120.

MATH-153 Calculus I 4 cr.

ANRSN MATH Fall, Spring and Summer

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions. Not open to those with credit in MATH-154, MATH-156, MATH-157 or MATH-158. Math placement test required, or Math-121.

MATH-154 Calculus II 4 cr.

GEANRSN MATH Fall and Spring Semesters

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

P: MATH-153 or MATH-156.

MATH-158 Calculus III 3 cr.

Fall and Spring Semesters

Formal integration continued; parametric equations, polar representation, Cauchy's formula, Taylor's theorem, infinite series, vectors, partial differentiation, multiple integration.

P: MATH-154 or MATH-157.

MATH-250 Differential Equations With Linear Algebra 3 cr.

Fall and Spring Semesters

Differential equations: first-order and higher-order equations, systems of linear differential equations. Linear algebra: matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors.

P: MATH-154 or MATH-157.

MATH-255 Differential Equations 3 cr.

Fall and Spring Semesters

Common types of ordinary differential equations of first and second order; linear equations with constant coefficients; series solutions, numerical approximations, systems of ordinary equations.

P: MATH-154 or MATH-157.

MATH-262 Modern Geometry 3 cr.

Spring Semester

Development of logical discourse, betweenness properties and plane separation, geometric models of axiomatic systems, modern geometry of triangle and circle, transformations (linear, circular), orthogonal systems of circles, elliptic and hyperbolic geometry.

P: MATH-153 or MATH-156.

MATH-275 Linear Algebra 3 cr.

Fall and Spring Semesters

Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equations and quadratic forms.

P: MATH-153 or MATH-156.

MATH-350 Vector Analysis 3 cr.

Fall, Spring and Summer

Basic theory of vectors. Vector differential calculus and vector integral calculus of two and three dimensions with applications.

P: MATH-158.

MATH-370 Modern Algebra I 3 cr.

Fall Semester

Set theory, mappings, equivalence relations and classes, mathematical induction, Peano's postulates, isomorphisms; development of natural numbers, integers, rational, and real numbers; introduction to integral domains and rings.

P: MATH-154 or MATH-157.

MATH-371 Modern Algebra II 3 cr.

Spring Semester

Continuation of 355-370; rings, integral domains, fields, polynomials, groups, vector spaces; introduction to algebra of matrices.

P: MATH-370.

MATH-450 Real Analysis I 3 cr.

Fall Semester

Rigorous development of advanced topics in analysis; functions, real numbers, sequences, Cartesian spaces, sequences of functions, limit superior and inferior, continuous functions.

P: MATH-154 or MATH-157.

MATH-451 Real Analysis II 3 cr.

Spring Semester

Continuation of 355-450; differentiation, integration, infinite series.

P: MATH-450.

MATH-460 Complex Variables With Applications 3 cr.

Spring Semester

Complex numbers, analytic functions, elementary functions of complex variables, mapping of elementary functions, integration techniques, power series and calculus of residues.

P: MATH-255.

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MECH Engineering Mechanics

MECH-290 Mechanics of Solids I 3 cr.

Fall and Spring Semesters

Technical calculations, dimensional analysis, freebody diagrams, force systems and equilibrium, friction, elementary statically determinate framed structures, and simple stress.

Prerequisites: PHYS-231, PHYS-241 or PHYS-281.

MECH-291 Mechanics of Solids II 3 cr.

Fall and Spring Semesters

Stress and strain, torsion, bending of beams, compound stress, principal stress, deflection of beams, statically indeterminate members and columns.

Prerequisites: MECH-290 or PHYS-331.

MECH-293 Engineering Mechanics 3 cr.

Fall Semester

Force systems and equilibrium in two and three dimensions, free body diagrams, trusses, frames, friction, kinematic analysis of particle and rigid body translation, rotation, and general plane motion, force-acceleration analysis, work-energy analysis, impulse momentum analysis, impact, damped and undamped vibrations, and forced vibrations.

Prerequisites: PHYS-281.

MECH-294 Mechanics of Materials 3 cr.

Spring Semester

Stress and strain, stress-strain curves, material properties, stress and strain transformation, axially loaded members, elastic and inelastic flexure, shear and bending moment diagrams, beam deflections, combined loading, fatigue, column buckling.

Prerequisites: MECH-293; minimum grade of C.

MECH-298 Field Experience 1-2 cr.

Fall, Spring and Summer

Equivalent to MECH-294, 183-294, 183-298.

MECH-332 Mechanical Design 4 cr.

Spring Semester

Analysis and design of machine elements: gearing bearings, shafting and friction devices.

MECH-337 Mechanical Design Practicum 3 cr.

Fall Semester

Practical application of mechanical design in a team project. Creativity, documentation standards, design for manufacturability, design analysis, team dynamics, communication skills, and finite element analysis are applied to an industrial standard in the design of a machine, system, or product.

Prerequisites: CADD-113, CADD-436 and MECH-332.

MECH-392 Mechanics of Machinery I 3 cr.

Spring Semester

Dynamics of machinery: rectilinear and curvilinear motion; translation and rotation of a rigid body, force-acceleration equation, impulse and momentum; work, power and energy; balancing and vibration.

Prerequisites: take MECH-290 or PHYS-331; and take MATH-153.

MECH-393 Mechanics of Machinery II 3 cr.

Fall Semester

Graphical analysis and synthesis of linkages, cams, gear trains, displacement, velocity, acceleration and dynamic forces.

MECH-398 Field Experience 1-2 cr.

Fall, Spring and Summer. Equivalent to 183-398.

MECH-437 Mechanical Design Lab 3 cr.

Fall and Spring

An experimental study in the design of electro- mechanical systems. Design, functional prototype construction, experimentation and validation of systems are emphasized.

Prerequisites: take MECH-337 and ELEC-341.

MECH-498 Field Experience 1-2 cr.

Equivalent to 183-498, RD-498.

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Revised: January 2007

MEDIA Media Technology

MEDIA-204 Exploring Photography (3 cr.)

HUM CRPRF

Fundamentals of both digital and conventional photography involving composition, aesthetics, photographic theory, camera operations, film selection/development, exposure controls, editing/enlargement, presentation/display, introduction to color, and basic electronic imaging. Students must provide their own 35mm camera.

MEDIA-305 Advanced Photography (2-3 cr.)

Fall, Spring and Summer

Advanced monochromatic photography: aesthetics, advanced theory, view-camera techniques, studio lighting, materials and equipment selection, sheet-film processing, specialized processes and techniques.

Prerequisites: take MEDIA-304. \$

MEDIA-310 Digital Photography (3 cr.)

Fall, Spring and Summer

A survey of digital photography with emphasis on image capture, manipulation, output, aesthetics. Ethical standards and legal issues as applied to digital photography. Adjustable camera required. Prerequisites: take MEDIA-204.

MEDIA-330 Digital Audio and Video Production Fundamentals (3 cr.)

Fall and Summer

A survey of digital audio and video production fundamentals with emphasis on workflow, digital

capture, editing and manipulation and delivery alternatives.

MEDIA-335 Film-History and Appreciation (3 cr.)

Fall

Evolution of motion picture film as medium of mass communication and aesthetic expression; contributions of noted film producers.

MEDIA-360 Introduction To Media in Education and Training (2 cr.)

Fall, Spring and Summer

Use of media in education and training. Includes the production of media and instructional materials in print, video, computer-bases and multimedia formats.

MEDIA-365 Integrated Software Applications For Instruction (3 cr.)

Spring and Summer

Software applications for the professional and personal use of instructors. The effective use of word processing, spreadsheet, database, presentation, communication and other appropriate software applications with emphasis on curricular integration and professional standards.

Prerequisites: take TCS-103.

MEDIA-366 Integrated Media Applications For Instruction (3 cr.)

Prepares instructors to use various media in the learning environment. Emphasis on proper curriculum integration based on sound curriculum design principles and professional standards.

Instructor's consent required. Prerequisites: take MEDIA-365.

MEDIA-370 Computer-Assisted Interactive Video (3 cr.)

Summer

Design, production and evaluation of interactive video applications. Analysis of various hardware and software systems. Instructor's consent required.

MEDIA-375 Web Production and Distribution (3 cr.)

Fall, Spring and Summer

Production and distribution of content to the World Wide Web (WWW). Consideration given to importance, types and purposes, advantages and disadvantages, production and distribution workflow, planning, use of various media elements and technologies for web production and distribution.

Prerequisites: TCS-103 or GCM-151.

MEDIA-400 Workshop (1-3 cr.)

Fall, Spring and Summer

Special topics in media technology providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

MEDIA-412 Nature Photography(3 cr.)

Fall, Spring and Summer

Fundamentals of conventional and digital photography, camera techniques, composition, aesthetics, exposure, and light in relation to animals, plants, water, weather and landscapes. Emphasis on appropriate photographic equipment and field techniques for nature photography. Student must provide an adjustable camera.

Prerequisites: take MEDIA-204. **\$**

MEDIA-414 Slide Duplication and Copystand Techniques (1 cr.)

Summer

Selection and use of equipment for copystand work and slide duplication; discussion of and practice with filters and multiple exposures.

Prerequisites: take MEDIA-204.

MEDIA-440 Telecommunication Systems and Teleconferencing (2 cr.)

Fall, Spring and Summer

Interactive teleconferencing techniques. Applications, effective utilization and cost- effectiveness of information distribution systems, including telephone, television, teletext, videotext, viewdata, cable TV, slow-scan TV, and computers. Survey of transmission systems, including telephone lines, satellites, coaxial cable, microwave and fiber optics.

MEDIA-445 Color Photography \$ (2-3 cr.)

Fall, Spring and Summer

Aesthetics, color theory, film selection, lighting, copy techniques, slide duplication, reversal and negative color film processing, and color printing.

MEDIA-451 Product Photography (3 cr.)

Fall, Spring and Summer

Photography of natural and manufactured products for illustration, documentation, catalog and aesthetic purposes. Studio and field shooting, lighting for various product characteristics and locations, markets and market requirements, photographer-client relations, legal issues. 35mm single lens reflex, medium format, view or adjustable digital (3 megapixel minimum) camera required.

Prerequisites: take MEDIA-204.

MEDIA-454 Small Format Video Production (1 cr.)

Summer

Selection of small format video systems to meet varied production needs. Planning and shooting video programs using BETA or VHS camcorders or 8mm equipment. Participants must provide their own personal or institutional video equipment.

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Revised: November 2007

MFGE Manufacturing Engineering

MFGE-106 Impacts of Engineering Design (2 cr.)

TECH GLP Fall, Spring and Summer

Investigation and exploration into past and present practices of engineering design and the resulting impacts on people, society, and the environment.

MFGE-145 Introduction to Manufacturing Engineering (1 cr.)

Fall

Introduction to Manufacturing Engineering as a profession. Presentation of the umbrella of engineering disciplines involved in manufacturing engineering.

MFGE-275 Thermodynamics and Heat Transfer (2 cr.)

Fall and Spring

Application of thermodynamics and heat transfer fundamentals to the design and analysis of manufacturing processes and systems.

Prerequisites: take PHYS-281, MATH-250; minimum grade C.

Corequisite course: MATH-250.

MFGE-320 Material Removal Processes (3 cr.)

Spring

Analysis and application of primary and secondary processing and post-processing methods used to manufacture products made from a broad spectrum of materials. The focus is on processes that shape materials by traditional and non-traditional material removal techniques.

Measurement principles and practice are encountered in hands-on part machining and inspection.

Prerequisites: take CHEM-341, MECH-293, CADD-113 and STAT-330; minimum grade C.

MFGE-325 Computer Aided Manufacturing for Manufacturing Engineers (3 cr.)

Fall, Spring and Summer

Effects of product mix and demand patterns on manufacturing system design and selection of process control methods. Introduction to quick changeover strategies and reprogrammable automation including numerically controlled machine tools, robotics, group technology, CAD/CAM, automated inspection and other computerized processing techniques.

Prerequisites: take MFGE-320 and CADD-113; minimum grade C.

MFGE-333 Polymer Processes (3 cr.)

Fall and Spring

Polymer materials and properties, material testing, product design and evaluation, tooling components, processing methods, machine setup and operation.

Prerequisites: take MECH-293, STAT-330 and MFGE-275; minimum grade C.

MFGE-343 Metal Casting, and Ceramic and Powder Metal Processes (2-3 cr.)

Fall and Spring

Theory and practice of industrial metal casting, ceramic forming and powder metallurgy processes. Prerequisites: take MFGE-275, MECH-294, CHEM-341 and STAT-330; minimum grade C.

MFGE-359 Bulk and Sheet Forming Processes (3 cr.)

Fall and Spring

Prerequisites: take MECH-294, CHEM-341, STAT-330 and MFGE-275; minimum grade C.

MFGE-363 Controls and Instrumentation (3-4 cr.)

Fall and Spring

Programmable logic controllers, structured ladder logic developments, input/output module description, and interfacing with analog and digital sensors and actuators. Motion, temperature, pressure and flow sensors. Advantages of closed loop control, mathematical modeling of electric and mechanical systems, stability analysis and frequency response. Introduction to motion control.

Prerequisites: take ELEC-290 and MATH-250; minimum grade C.

MFGE-375 Joining and Fastening (4 cr.)

Spring

Welding of metals, ceramic, and plastic. Brazing and soldering of appropriate metals, set up and operate welding equipment. Thermal effects and destructive testing. Evaluation of adhesives and mechanical fasteners. Welding codes and ASTM standard comparative processing cost.

Prerequisites: take MECH-294, CHEM-341, MFGE-275 and STAT-330; minimum grade C.

MFGE-383 Coating, Finishing and Packaging (3 cr.)

Fall and Spring

Coating, finishing, and packaging materials and processes. Concurrent product design and development.

Prerequisite: take MFGE-275; minimum grade C.

MFGE-391 Fluid Mechanics (2 cr.)

Fall, Spring and Summer

Fundamental fluid mechanics is presented. Fluid power components and measurement systems are presented. Fluid power systems are mathematically modeled. Fluid power circuits and circuit schematics are designed and analyzed. Fluid power dynamic behavior, in general terms, is discussed.

Prerequisite: take MFGE-363; minimum grade C.

MFGE-395 Seminar (1-2 cr.)

Fall and Spring

Title will reflect specific manufacturing content.

MFGE-405 Capstone I: Concurrent Design (2-3 cr.)

Fall, Spring and Summer

Concurrent product design and development. Concept of design; brainstorming, problem solving, and creativity methods. Engineering methods. Design analysis, solid modeling, finite element analysis and information sources. Development of teamwork and communications skills. Consideration of cell needs and limitations.

Prerequisites: take MFGE-375 MFGE-359 MFGE-320, MFGE-333, MFGE-343 and MFGE-441; minimum grade C.

MFGE-407 Flexible Manufacturing Systems (4 cr.)

Fall and Spring

Specifications, planning, purchasing decisions, and programming of industrial robots in cellular and lean manufacturing systems, with emphasis on equipment selection.

Prerequisite: take MFGE-325; minimum grade C.

MFGE-410 Capstone II: Manufacturing System Design (3 cr.)

Fall and Spring

Dedicated and flexible manufacturing systems through the design, building and testing of a flexible manufacturing cell that produces a discrete family of parts, design of part transfer, tooling, sensing, production control and integrated inspection systems will be emphasized. Prerequisite: take MFGE-383, MFGE-405, MFGE-407 and MFGE-391; minimum grade C.

MFGE-440 Manufacturing System Design and Simulation (3 cr.)

Fall, Spring and Summer

Manufacturing system design using group technology and other techniques. System design evaluation using simulation software and other analysis tools and methods.

Prerequisites: take MFGE-325 and STAT-330; minimum grade C.

MFGE-441 Design of Jigs, Fixtures, and Tooling (3 cr.)

Fall, Spring and Summer

Design of tooling used for machining, locating and transferring multiple parts for fixed and flexible manufacturing. Design, setup and development of tooling for robots, computer numerical control machines and other production equipment. Transfer line tooling.

Prerequisites: take MFGE-320 and CADD-113; minimum grade C.

MFGE-490 Manufacturing System Design Problems (1-3 cr.)

Fall, Spring and Summer

Manufacturing system design through the application of previously learned principles and techniques. Issues to be addressed include: product design for manufacturability, process and tooling design and fabrication, system layout and equipment configuration, information and control architecture, implementation of quick-changeover strategies, task sequencing and scheduling, and simulation and evaluation of alternatives.

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Revised: October 2003

MFGT Manufacturing Technology

MFGT-110 Materials and Manufacturing Processes (3 cr.)

Fall and Spring

Manufacturing processes, material properties and their selection for product functions. Structure and characteristics of metal, polymer/wood, ceramic and composite materials will be examined.

MFGT-150 Introduction to Engineering Materials (3 cr.)

Fall and Spring

Exposure to engineering materials, their properties, and behavior. Topics will include: material types, testing, mechanical properties, heat treatment, and material selection. Students are expected to have had high school chemistry. Math Proficiency greater than or equivalent to Math-120.

MFGT-202 Welding and Casting Processes (3 cr.)

Fall and Spring

Lab intensive class utilizing various processes and parameters in the welding and foundry areas.

Prerequisites: take MFGT-110.

MFGT-203 Machining Metal Forming Processes (3 cr.)

Fall and Spring

Machine tool concepts providing an operational knowledge of traditional and non-traditional machining processes. Fundamental forming machine and hand tool operations. Sheet metal pattern development. Prerequisites: take MFGT-110.

MFGT-204 Polymer Processes (3 cr.)

Fall and Spring

Introduction to properties of plastic, elastomeric and fiber-reinforced composite materials and the processes used to manufacture products from them. Primary and secondary manufacturing processes used to convert wood-fiber materials into components and/or finished products. Prerequisites: take MFGT-110

MFGT-251 Polymer and Composite Processes (3 cr.)

Fall and Spring

Polymer materials and properties, material testing, product design and evaluation, processing methods, machine set-up and operation. Prerequisites: take MFGT-150 or PKG-220.

MFGT-252 Material Removal and Forming Processes (3 cr.)

Fall and Spring

Machine tool concepts providing an operational knowledge of machining and metal forming processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Measurement principles and practice applied to inspection and process control. Development of process designs appropriate for product specifications. Prerequisites: take MFGT-150.

MFGT-253 Joining and Casting Processes (3 cr.)

Fall and Spring

Process concepts providing an operational knowledge of the practice and theory of welding, thermal cutting, adhesive bonding, and metal casting processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Development of process designs and practices appropriate for product specifications, inspection and process control. Prerequisites: take MFGT-150.

MFGT-303 Computer Aided Manufacturing (3 cr.)

Fall and Spring

Justification for and application of computer assistance in manufacturing process; machine process control, inventory and materials handling, robotics and automated assembly, product design and part grouping in relation to total manufacturing operation. Prerequisites: take MFGT-203 or MFGT-252, and take CADD-112 or AEC-131.

MFGT-315 Metallurgy (3 cr.)

Fall and Spring

Properties of crystalline solids, production of iron and steel, the carbon-iron equilibrium diagram, principles of heat treatment, properties of ferrous alloys. Production, properties, and theory of the most important non-ferrous metals and alloys.

MFGT-330 Plastics for Teachers (2 cr.)

Summer

Overview of plastics as a manufacturing material. Focus on plastics processes: injection molding, blow molding, extrusion, thermoforming, and reinforced resin composites. Includes lab projects for the technology education classroom and tours to plastic processing industries.

MFGT-337 Numerical Control in Manufacturing (1-3 cr.)

Fall and Spring

Investigation and justification of numerical control of machine tools; types of control units and systems, feedback systems, manuscript writing and manual programming, tape punching and machine set up, fixture design and tool setting; working knowledge of basic machining processes recommended. Prerequisites: take MFGT-303.

MFGT-340 Plastics Processing (3 cr.)

Fall, Spring and Summer

Injection molding process control, material properties, statistical process control, and basic product and mold design. Basic thermoforming processes and product design; profile, sheet, and film extrusion; blow molding processes; and resin composite materials and molding processes

MFGT-345 Design and Simulation of Manufacturing Cells (3 cr.)

Fall and Spring

Applied manufacturing system design and evaluation. Group technology approach. Computer assisted coding and classification. Development of part families. Efficient design of manufacturing cells. Evaluation of manufacturing system designs using simulation and other techniques. Basic statistics and computer programming abilities desirable.

MFGT-355 Plastics Tooling I: Injection Molding (3 cr.)

Spring

Injection molding principles, product design, material selection, mold design and fabrication, computer aided engineering, and simulation of injection molding processes, mold and product evaluation. Prerequisites: take MFGT-340 and CADD-436.

MFGT-400 Workshop (1-3 cr.)

Fall, Spring and Summer

Special topics manufacturing, providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

MFGT-405 Industrial Robotics (3 cr.)

Fall and Spring

Specifications, planning, purchasing decisions, and programming of industrial robots. Prerequisites: take MECH-290 or PHYS-321.

MFGT-470 Plastics Tooling II: Extrusion and Blow Molding (3 cr.)

Fall

Principles of extrusion and blow molding, testing of materials and applications, mold and die design and fabrication product evaluation, downstream operations. Includes design project and verification testing. Prerequisites: take MFGT-355.

MFGT-489 Business and Industry Internship (1-8 cr.)

Fall and Spring

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Junior level or higher. **R**

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Revised: August 2006

MFT Marriage and Family Therapy

MFT-453 Couples Therapy and Communication Training 2-3 cr.

Fall

Theory and intervention that focuses on couples therapy and communication training. Application of skills to personal relationships and professional work. Equivalent to HDFL-453, 212-653.

MFT-466 Alcoholism and Family Systems Intervention 2 cr.

Spring and Summer

The role of alcoholism in the family and how to intervene therapeutically. Equivalent to PSYC-466, 479-666, 413-666.

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Revised: January 2002

MSCS Mathematics, Statistics and Computer Science

MSCS-280 Graph Theory With Applications in Computer Science 3 cr.

Fall and Spring

Basic logic and proving skills, Boolean Algebra, digital logic, recurrence relation, principles of graph theory, computer representation of graphs, properties of general graphs, structure and properties of special graphs, flow networks, computer applications of graph theory, algorithms and complexity analysis. Prerequisites: take CS-244.

MSCS-390 Topics 1-2 cr.

Topics of current importance in applications of mathematics to problems in business, industry, government or society. May be repeated for additional credit with consent of program director. R

MSCS-446 Numerical Analysis I 3 cr.

Theory and applications of numerical methods for linear algebra, non-linear equations and polynomial interpolation.

P: MATH-158, MATH-275, and CS-145.

MSCS-447 Numerical Analysis II 3 cr.

Theory and applications of numerical methods for approximation, numerical integration and differentiation, differential equations, and Fourier analysis.

P: MSCS-446, MATH-255.

MSCS-475 Applied Mathematics Internship 2-8 cr.

Fall, Spring and Summer

Off-campus work and study in approved position to gain experience in using computer and/or statistical techniques in the analysis and solution of real-world problems. Interns receive salaried appointments with cooperating companies for summer or summer plus one semester. Junior level or higher. R

MSCS-490 Mathematical Models I 2 cr.

Fall Semester

Supervised experiences in construction of mathematical models for the solution of problems in area of student's needs and interests; resource materials. Senior level or higher. Applied Mathematics and Computer Science majors only.

MSCS-491 Mathematical Models II 2 cr.

Spring Semester

Continuation of MSCS-490.

P: MSCS-490.

MSCS-492 Mathematical and Computational Foundations of Bioinformatics

Indepth examination of different types of algorithms employed in bioinformatics, their mathematical foundations, and software implementation. Topics in mapping DNA, sequencing DNA, comparing sequences, predicting genes, finding signals, identifying proteins, repeat analysis, DNA arrays, genome rearrangements, molecular evolution, phylogenetics, machine learning, systems biology and computational biology. Senior level or higher; Applied Math & Computer Science majors only.

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Revised: April 2007

MSL Military Science and Leadership

MSL-101 Introduction to Military Leadership I (1 cr.)

Fall

Introduction to the Army profession and military leadership. Exploration of the seven Army values and 16 Army leadership dimensions, as well as some core competencies critical to effective leadership (i.e. management, problem-solving, decision-making). Off campus weekend leadership orientation in a military environment with outdoor physical activities, including pugil stick, obstacle course, land navigation/orienteering, basic rifle marksmanship, and confidence

course training.

MSL-201 Innovative Tactical Leadership (2 cr.)

Fall

Identification of successful leadership characteristics through the observation of the actions of others and one's-self through practical exercises. The course is designed to facilitate development of a personal leadership style. Includes physical training and leadership lab requirements. Instructor's consent required.

MSL-301 Adaptive Team Leadership (3 cr.)

Fall

The study, practice and evaluation of adaptive leadership attitudes, skills and actions as presented in individual leader and small unit level tactical scenarios. Primary focus is on preparation for the national Leader Development and Assessment Course (LDAC), coming at the end of the junior year. Instructor's consent required.

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Revised: July 2005

MUSIC Music

MUSIC-101 Class Piano I 1 cr.

HUM CRPRF Fall and Spring Semesters

Group instruction in piano technique and repertoire at beginner level. One one-hour lesson per week; additional practice time required.

MUSIC-102 Class Voice I 1 cr.

HUM CRPRF Fall, Spring and Summer

Group instruction in vocal technique. Solo performance in class. **R**

MUSIC-111 Advanced Piano I 1 cr.

Fall and Spring Semesters

Private instruction in piano technique and repertoire. One 1/2-hour lesson per week; additional practice time required; optional recital.

MUSIC-112 Advanced Voice I 1 cr.

Fall and Spring Semesters

Private instruction in vocal technique and repertoire. One 1/2-hour lesson per week; additional practice time required; optional recital.

MUSIC-130 Music Appreciation 2 cr.

HUM ARTMU Fall, Spring and Summer

Music materials as they pertain to perceptive listening; music and musicians from medieval times to present; students gain significant awareness of great music. Students do not earn credit for both MUSIC-130 and MUSIC-132.

MUSIC-132 Music in Our World 3 cr.

HUM ARTMU ESC Fall, Spring and Summer

Music materials as they pertain to perceptive listening; music and musicians from the beginnings of music to the present. Great music from many cultures. Students do not earn credit for both MUSIC-130 and MUSIC-132.

MUSIC-201 Class Piano II 1 cr.

GEHUM CRPRF Fall and Spring Semesters

Continuation of MUSIC-101 at intermediate level. One one-hour lesson per week; additional practice time required.

MUSIC-206 Music for the Young Child 2 cr.

Fall and Spring Semesters

Music elements and experience, methods and materials for guiding the musical growth of children from birth through third grade. P: MUSIC-101.

MUSIC-211 Advanced Piano II 1 cr.
Fall and Spring Semesters Continuation of MUSIC-111.

MUSIC-212 Advanced Voice II 1 cr.
Fall and Spring Semesters Continuation of MUSIC-112.

MUSIC-264 Jazz Band 1 cr.
HUM CRPRF Fall and Spring Semesters
Jazz styles and improvisation from the dance band era to the present. Study and performance of contemporary "big band" jazz. Membership is open to all qualified students. Instructor's consent required. Membership by audition. **R**

MUSIC-265 University Choir 1 cr.
HUM CRPRF Fall and Spring Semesters
Advanced choral techniques, reading and analysis of choral music of all types and periods. Concert and radio appearances. **R**

MUSIC-266 Concert Band 1 cr.
HUM CRPRF Fall and Spring Semesters
Fundamentals of musical expression, tone production and quality, and special problems of technique. Membership by audition only. **R**

MUSIC-267 Symphonic Singers 1 cr.
HUM CRPRF Fall and Spring Semesters
Advanced choral techniques, reading and analysis of choral music of all types and periods. **R**

MUSIC-268 Solo and Ensemble 1 cr.
Fall and Spring Semesters
Coaching of advanced vocal and instrumental performers for public performance. **R**

MUSIC-270 Vocal Jazz Ensemble 1 cr.
HUM CRPRF Fall and Spring Semesters
Performance of vocal jazz in a select choral ensemble. Membership by audition only. **R**

MUSIC-311 Advanced Piano III 1 cr.
Fall and Spring Semesters
Continuation of MUSIC-211. Equivalent to 360-311. **R**

MUSIC-312 Advanced Voice III 1 cr.
Fall and Spring Semesters
Continuation of MUSIC-212. **R**

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Revised: November 2006

PE Physical Education and Athletics

PE-101 Aerobic Dance (1 cr.)
HPE ACTV Fall and Spring
Introduction to aerobic dance as a technique for the development of physical fitness.

PE-103 Archery/Beginning (1 cr.)

HPE ACTV Fall and Spring

PE-105 Bow Hunting (1 cr.)

HPE ACTV Fall

Conservation, safety, selection and care of equipment; techniques and practical bow hunting experience.

PE-107 Badminton (1 cr.)

HPE ACTV Fall and Spring

PE-109 Basketball (1 cr.)

HPE ACTV Fall R

PE-110 Bicycling (1 cr.)

HPE ACTV Fall, Spring and Summer

Bicycling for health and fitness: safety, technique, and knowledge.

PE-113 Bowling (1 cr.)

HPE ACTV Fall and Spring \$

PE-115 Canoe Techniques (1 cr.)

HPE ACTV Fall and Spring \$

PE-120 Self-Paced Personal Fitness (1 cr.)

HPE

Improvement of personal physical fitness through self-paced exercise programs and fitness activities.

PE-121 Exercise For Fitness (1 cr.)

HPE ACTV Fall, Spring and Summer

PE-122 Fitness Yoga (1 cr.)

HPE WinTerM

An introduction to yoga as a mind/body fitness practice.

PE-125 Fly Fishing (1 cr.)

Spring

Fly tying, casting techniques, literature, stream craft, equipment considerations, conservation ethics and natural resources stewardship.

PE-129 Golf(1 cr.)

HPE ACTV Fall, Spring and Summer

Fundamental principles of golf; skills, history, etiquette and application of techniques. Required: play 27 holes of golf, pay greens fees, furnish three golf balls for class use. \$

PE-132 Horseback Riding-Beginning Western (1 cr.)

HPE ACTV

Western horsemanship: basic body position and control at the walk, trot and lope. \$

PE-133 Horseback Riding-Beginning English(1 cr.)

HPE ACTV Fall and Spring \$

PE-134 Horseback Riding-Intermediate English (1 cr.)

HPE ACTV

English riding skills: serpentines and figure eights at advanced gaits, simple lead changes, side pass and turns on the forehand and haunches. \$

PE-135 Walking/Jogging (1 cr.)

HPE ACTV Fall and Spring

The study and practice of walking/jogging as an exercise philosophy, as an exercise technique and an exercise program.

PE-136 Ice Fishing (1 cr.)
HPE ACTV WinTerM
An introduction to the sport of ice fishing.

PE-142 Outdoor Skills(1 cr.)
HPE ACTV Fall and Spring \$

PE-143 Rock Climbing (1 cr.)
HPE Summer
Rock climbing as a recreational sport.

PE-144 Personal Defense (1 cr.)
HPE ACTV Fall, Spring and Summer
Development of physical fitness for defense consciousness; techniques of initial and basic defense skills in weapon and rape attacks.

PE-145 Practicum in Intercollegiate Athletics (1 cr.)
HPE ACTV Fall and Spring
Practical experience in intercollegiate athletics, including completion of a season as a member of an intercollegiate team.
Prerequisites: take PE-200. **R**

PE-146 Racquetball/Beginning (1 cr.)
HPE ACTV Fall and Spring

PE-148 Relaxation (1 cr.)
HPE ACTV Fall and Spring

PE-150 Snowboarding (1 cr.)
HPE
An introduction to the skills and safety aspects basic to snowboarding.

PE-152 Skiing (1 cr.)
HPE ACTV Spring \$

PE-156 Soccer (1 cr.)
HPE ACTV Fall, Spring and Summer
The development and improvement of the skills and tactics required in the sport of soccer.

PE-159 Softball (1 cr.)
HPE ACTV Spring
The development and improvement of the skills required in the sport of softball.

PE-173 Skin and Scuba Diving (1 cr.)
HPE ACTV Fall, Spring and Summer \$

PE-176 Tennis/Beginning (1 cr.)
HPE ACTV Fall, Spring and Summer

PE-182 Tumbling I (1 cr.)
HPE ACTV Spring
An introduction to basic tumbling skills, including forward, backward, and sideward rotational skills as well as springing and vaulting movements from the hands and feet.

PE-183 Tumbling II (1 cr.)
HPE ACTV
Continued study of tumbling techniques including forward and backward rotational skills, twisting, and connections of rotational skills.
Prerequisites: take PE-182 (12527).

PE-184 Tumbling III (1 cr.)
HPE ACTV

Continued study of tumbling techniques including multiple twisting and multiple flipping rotational skills.

Prerequisites: take PE-183.

PE-185 Volleyball (1 cr.)
HPE ACTV Fall and Spring **R**

PE-187 Weight Training (1 cr.)
HPE ACTV Fall, Spring and Summer

PE-200 Orientation To Intercollegiate Athletics (1 cr.)
Fall and Spring
Introduction to intercollegiate athletics, including NCAA and conference regulations; current issues, such as professional sports, costs, drugs, Title IX, minority issues and ethics; components of athletic programs; physiology of exercise; and psychology of sport.

PE-265 Physical Activities For Young Children (2 cr.)
Fall and Spring
Sequential development of physical perceptual skills in children, birth to age 5; perceptual motor activities that promote development.

PE-345 Basketball Officiating (1 cr.)
Fall
Rules and officiating techniques for men's and women's basketball; preparation for DGWS and/or WIAA officiating certifications.

PE-346 Football Officiating (1 cr.)
Fall
Application of football officiating rules and techniques.

PE-352 Theory and Management of Coaching (2 cr.)
Fall
Current management principles and practices applied to the profession of coaching.

PE-362 Psycho-Social Aspects of Athletics (2 cr.)
Spring
Examination of the psychology of sport and human movement. Understanding motivation, individual differences and social influence.

PE-401 Coaching Gymnastics (2 cr.)
Spring
Elements of gymnastic tumbling and use of gymnastic apparatus as part of a modern physical education program.

PE-460 Coaching Basketball (2 cr.)
Spring
Fundamentals and methods of teaching and coaching basketball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

PE-461 Coaching Football (2 cr.)
Fall
Fundamentals and methods of teaching and coaching football, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

PE-470 Coaching Baseball (2 cr.)
Spring
Fundamentals and methods of teaching and coaching baseball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

PE-471 Coaching Track and Field (2 cr.)

Spring

Fundamentals and methods of teaching and coaching track and field, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

PE-478 Coaching and Officiating Volleyball (2 cr.)

Fall

Skills and techniques of coaching and officiating competitive volleyball. Instructor's consent required. Prerequisites: take PE-185.

PE-480 Coaching Youth Athletes (2 cr.)

Fall, Spring and Summer

Coaching strategies for organized non-varsity youth sports programs--philosophy, psychology, physiology, pedagogy, prevention and care of injuries, and legalities.

PE-481 Coaching Hockey (2 cr.)

Fall and Spring

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive hockey skills and strategies; organizing and administering hockey programs at all age levels. Sophomore level or higher.

PE-482 Coaching Softball (2 cr.)

Fall and Spring

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive softball skills and strategies; organizing and administering softball programs at all age levels. Sophomore level or higher.

PE-483 Coaching Soccer (2 cr.)

Fall and Spring

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive soccer skills and strategies; organizing and administering soccer programs at all age levels. Sophomore level or higher.

PE-490 Practicum in Coaching (1-3 cr.)

Fall and Spring

On- or off-campus work and study in athletic coaching with competitive teams.

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PHIL Philosophy

PHIL-201 Introduction to Philosophy 3 cr.

HUM PHIL GLP Fall and Spring Semesters

Introduction to the principal problem areas and history of philosophy, as well as to the nature of philosophical investigation.

PHIL-205 Philosophy of Religion 3 cr.

HUM PHIL Fall Semester

Principal philosophical problems in the various dimensions of religious experience and belief.

PHIL-215 Eastern Philosophy 3 cr.

HUM PHIL GLP Spring Semester

Philosophies of India, China and Japan: Hinduism, Buddhism, Confucianism, Taoism and Zen Buddhism.

PHIL-215 Multicultural Philosophy 3 cr.

HUM PHIL ESA

African American, Hispanic American, Asian American, American Indian, and Feminist philosophies. Philosophical issues of race, social justice, values, environmental ethics, spiritual belief, and epistemology.

PHIL-235 General Ethics 3 cr.

HUM PHIL Fall, Spring and Summer

Ethical valuing process: principal ethical theories and their application to common human problems. Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

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PHYS Physics

PHYS-151 Astronomy (3 cr.)

NSCI PHYSC LAB Fall and Spring

The solar system, stars, galaxies and the universe. Physical processes and observational methods.

PHYS-211 Introduction to Physics (3 cr.)

NSCI PHYSC Fall

Introduction to principles of physics, including mechanics, fluids, heat and thermodynamics, light and sound, electricity and magnetism; their applications to specific technologies.

PHYS-212 Introduction to Physics: Lab (1 cr.)

NSCI PHYSC LAB Fall, Spring and Summer

Measurement, analysis and presentation of laboratory data on basic physics concepts, including mechanics, fluids, heat, electricity, light and sound. Corequisite courses: PHYS-211.

PHYS-231 General Physics I (4 cr.)

NSCI PHYSC LAB Fall, Spring and Summer

Algebra- and trigonometry-based general physics course: mechanics and sound with laboratory. Math proficiency greater than or equal to Math-121.

PHYS-232 General Physics II (4 cr.)

NSCI PHYSC LAB Fall, Spring and Summer

Algebra- and trigonometry-based general physics course: electricity and light with laboratory. Prerequisites: take PHYS-231.

PHYS-241 College Physics I (5 cr.)

NSCI PHYSC LAB Fall, Spring and Summer

Calculus-based general physics course: mechanics and thermodynamics with laboratory. Prerequisites: take MATH-153 or MATH-156.

PHYS-242 College Physics II (5 cr.)

NSCI PHYSC LAB Fall, Spring and Summer

Calculus-based general physics course: electricity, sound, light and selected topics in modern physics with laboratory. Prerequisites: take PHYS-241.

PHYS-250 The Physics of Light and Color (3 cr.)

NSCI PHYSC LAB Fall and Spring

Properties, sources and perception of light are examined through lectures and laboratory activity.

Topics considered are: color systems and vision, optical devices and phenomena; and image formation and appearance.

Prerequisites: take MATH-118, MATH-120 or MATH-123.

PHYS-251 Topics in Astronomy (1 cr.)

NSCI PHYSC Fall

Qualitative analysis emphasizing physical principles of selected topics in astronomy. Significance of modern methods of obtaining astronomical information.

PHYS-255 Meteorology (2 cr.)

NSCI PHYSC Fall and Spring

Physical processes that determine properties of the earth's atmosphere: precipitation, atmospheric circulation, weather, climate and human influence on the atmosphere in the framework of physics.

PHYS-257 Introduction to Geology and Soil Mechanics (3 cr.)

Fall, Spring and Summer

Physical processes involved in rock formation, mountain building, erosional landscapes, plate tectonics, earthquakes and geologic dating. Elementary soil mechanics.

PHYS-258 Introduction to Geology (2 cr.)

NSCI PHYSC Fall and Spring

Composition of the earth and its physical processes, including geologic time, rocks and minerals, raw resources and energy, volcanism, earthquakes, streams and groundwater, weathering, glaciation, shorelines, deserts, wind, and planetary geology.

PHYS-281 University Physics I (5 cr.)

NSCI PHYSC LAB Spring

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Prerequisites: take MATH-154 or MATH-157.

PHYS-282 University Physics II (5 cr.)

NSCI PHYSC LAB Fall

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisites: take PHYS-281.

PHYS-321 Statics and Strength of Materials (4 cr.)

Fall, Spring and Summer

Force and moment equilibrium including friction, trusses, frames and machines. Simple and compound stress and strain including beams and joints. No credit for students taking PHYS-325 or PHYS-331.

Prerequisites: take PHYS-241 or PHYS-281.

PHYS-325 Strength of Materials (3 cr.)

Fall, Spring and Summer

Fundamental theory of strength of materials. Analysis of tension, compression, shear, biaxial tension and compression, torsion, stresses and deflection of beams.

Prerequisites: take PHYS-231, MATH-153 or MATH-156; or take PHYS-241; or take PHYS-281.

PHYS-327 Solid State Physics (3 cr.)

Spring

Crystalline structure, lattice vibration and energy states, Brillouin zones, electrons in metals, semi-conductors, and dielectric and magnetic properties of solids.

Prerequisites: take PHYS-282 or PHYS-242; and MATH-157 or MATH-154.

PHYS-329 Atomic and Nuclear Physics (3 cr.)

Fall

Elements of atomic and nuclear physics.

Prerequisites: take PHYS-282; or take PHYS-242 and MATH-154 or MATH-157.

PHYS-330 Science and the Fallible Mind for Educators (2 cr.)

Summer

Cross-disciplinary, physical science course primarily intended for educators. Defines and

examines science with a perspective on societal issues related to the human mind, consumer marketing, psychology, religion, risk and fear, global concerns, and the use and abuse of numbers. High school algebra.

PHYS-331 Statics (3 cr.)

Fall

Essential elements of statics: simple force system, theory and application of non-concurrent forces, couples, friction, non-coplanar forces, trusses and other structures.

Prerequisites: take PHYS-241 or PHYS-281.

PHYS-333 Dynamics (3 cr.)

Spring

Essential elements of dynamics: rectilinear, angular and harmonic motions; forces producing motion, work, energy, acceleration, impulse and momentum.

Prerequisites: take PHYS-331.

PHYS-335 Optics (3 cr.)

Spring

Optics with emphasis on the wave nature of light: interference diffraction, polarization and coherence; their applications in holography.

Prerequisites: take PHYS-282; or take PHYS-242 and MATH-154 or MATH-157.

PHYS-351 Astrophysics (3 cr.)

Fall, Spring and Summer

Quantitative and qualitative study of the solar system, stars, galaxies and the universe. Physical processes and observational methods and analysis.

Prerequisites: take PHYS-282 or PHYS-242.

PHYS-380 Electromagnetic Fields (3 cr.)

Fall

Development and application of the theory of electromagnetic fields; analysis of the electromagnetic properties of materials and Maxwell's equations.

Prerequisites: take PHYS-282 or PHYS-242, and MATH-255 or concurrent enrollment.

Corequisite course: MATH-255.

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PKG Packaging

PKG-100 Packaging and Society (2 cr.)

TECH GLP Fall and Spring

A broad overview of the importance of packaging in society. Introduction to packaging and its interrelationship to multiple disciplines including impact on people and the environment.

PKG-150 Packaging Fundamentals (3 cr.)

Fall and Spring

Explore the purpose of packaging materials and manufacturing methods, including global perspectives, history, environment, market and consumer needs.

PKG-200 Packaging Materials (3 cr.)

Fall and Spring

Origin, composition, properties and application of packaging materials; lab work in packaging and materials testing methods.

Prerequisite: take PKG-150.

PKG-210 Packaging Materials: Paper, Wood, Adhesives, and Metal (3

cr.)

Fall and Spring

Technical exploration of paper, wood, adhesives and metal used in packaging worldwide. Material properties and international production processes, applications, environmental impacts of paper, wood, adhesives, and metal. Prerequisites: take PKG-150 and CHEM-135.

PKG-220 Packaging Materials: Polymers and Glass (3 cr.)

Fall and Spring

Technical exploration of polymers and glass used for packaging worldwide. Material properties, production processes, applications, environmental impacts of polymers and glass. Prerequisites: take PKG-150 and CHEM-135.

PKG-250 Consumer Packaging Systems (3 cr.)

Fall and Spring

The study of packaging from the design concept through production. Lab work on structural design, sample making, and machine operation. Discussions on standard packages and their applications.

Prerequisite: take PKG-200 or take PKG-210 and PKG-220.

PKG-260 Distribution Packaging (3 cr.)

Fall and Spring

Packaging systems to support the distribution functions. Topics will include shipping containers, palletizing, unitizing, barrier problems, marking and coding for shipment, freight regulations, military specifications and hazardous materials regulations.

Prerequisite: take PKG-200 or take PKG-210 and PKG-220.

PKG-335 Packaging Machinery (3 cr.)

Spring

Weighing, forming, filling, sealing, cartoning, capping, labeling, wrapping, casing, uncasing, palletizing/depalletizing machines as applies to the functional capabilities of speed, materials, containers, and operating functions.

Prerequisite: take PKG-200 or take PKG-210 and PKG-220.

PKG-350 Packaging Design and Evaluation (3 cr.)

Fall and Spring

Chemical and physical protection problems; materials, structure, graphics and regulations in package design; shock and vibration forces in package evaluation; practical applications of evaluation using electronic instrumentation.

Prerequisite: take PKG-250 and PKG-260.

PKG-450 Food Packaging Laboratory (3 cr.)

Fall

Solve complex problems in food packaging research and development through understanding the interrelationships of food and packaging in laboratory exercises.

PKG-489 Business and Industry Internship (1-8 cr.)

Fall and Spring

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Junior level or higher. **R**

PKG-490 Packaging Development (3 cr.)

Fall and Spring

Applications of packaging functions: developing a product's complete packaging system, from

final production of product to consumer.
Prerequisites: take PKG-350.

PKG-495 Packaging Seminar (2 cr.)

Fall and Spring

Current packaging problems or developments (subject based on students' interests and current issues).

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POLS Political Science

POLS-210 American Government 3 cr.

SBSCI POLS ESB Fall, Spring and Summer

Structures and processes of national, state and local government in the United States; constitutional framework, political theory and ideology, racial and ethnic dimensions of U.S. political culture, civil rights, media, voting, parties, elections, interest groups, and policy making. Comparisons with selected foreign governments. Equivalent to 375-210, 375-210.

POLS-220 State and Local Government 3 cr.

State and local governments within U.S. federal system. Equivalent to 375-220.

POLS-250 Politics and Technology 3 cr.

TECH Fall and Spring Semesters

Analysis of the interfacing of technology and politics, focusing on the dynamics of the public policy process involving selected technologies, events, issue groups and governmental institutions. Equivalent to 375-250.

POLS-260 Problems of U.S. Foreign Policy 3 cr.

Analysis of U.S. foreign policy objectives and decision making; problems of national defense, Third World relationships, economic and resource policies, Presidential/Congressional authority, intelligence operations and public opinion. Equivalent to 375-260.

POLS-270 Introduction to Comparative Government 3 cr.

Analysis and comparison of basic political principles, institutions and problems of major Western, Communist and underdeveloped nations; consideration of alternative approaches to political order and change. Equivalent to 375-270.

POLS-310 Political Parties and Elections 3 cr.

Analysis of modern political parties. Nominating methods, campaigns, elections. Practical politics in legislative bodies; machines and bosses. Equivalent to 375-310. P: POLS-210.

SBSCI POLS Fall and Spring Semesters

The global political system; influence of technology, ideology, ethnicity, national interests, power, morality, multinational business, international organizations, and economic, demographic and ecological patterns; approaches to managing war, violence, economic relations, global pollution and other international problems. Equivalent to 375-340.

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POWER Power

POWER-103 Power Mechanics 2 cr.

Fall, Spring and Summer

Internal and external combustion heat engines, mechanical and fluid transmission systems; present and future applications and limitations. Laboratory work emphasized.

POWER-260 Introduction to Fluid Power 2 cr.

Fall, Spring and Summer

Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits.

POWER-303 Mechanical Power Transmission 3 cr.

Fall and Spring Semesters

Fundamentals of mechanical power transmission: theory of operation, selection of components, suggestions for application, and analysis of systems.

POWER-361 Industrial Hydraulics 2 cr.

Fall Semester

Theory, operation and construction of hydraulic systems and circuits; pumps, reservoirs, lines, control valves and actuators.

POWER-362 Industrial Pneumatics 2 cr.

Spring Semester

Theory, operation and construction of pneumatic and pneumatic/hydraulic system components, with application to basic industrial circuits; compressors, plumbing, control valves and actuators.

POWER-395 Seminar 1-2 cr.

Fall, Spring and Summer

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. **R**

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PSYC Psychology

PSYC-100 Psychology Seminar I — Foundations (1 cr.)

Fall, Spring and Summer

An orientation activity for all students in their initial semester as a psychology program student. Information concerning psychology as a discipline, applied profession, and liberal arts program is presented. Career and graduate training opportunities are reviewed.

PSYC-110 General Psychology (3 cr.)

SBSCI PSYC ESC Fall, Spring and Summer

An introduction to psychology as a discipline and applied science. Emphasis is placed on scientific methodology as it is applied to behavior, learning, memory, perception, motivation, development, individual differences, mental health, the physiological basis for behavior, and on the application of psychological principles to human experience.

PSYC-120 Psychology of Adjustment (3 cr.)

Fall and Spring

Principles, models and theories of psychology applied to understanding self, others, relationships and problems of contemporary life. Emphasis on healthy and effective personal and interpersonal

life coping skills. Strategies and resources for confronting common life adjustment concerns.

PSYC-190 Psychological Research Methods (4 cr.)

Fall and Spring

An introduction to research methods used in the behavioral sciences. Lecture and laboratory activities involve applications of methodologies and computer technologies to understand and produce research compatible with American Psychological Association standards.

PSYC-210 Introduction To Applied Psychology (3 cr.)

ESB Fall, Spring and Summer

Introduction to the application of psychological theories, methods of investigation, and research findings to a diverse spectrum of social problems. Emphasis is placed on the use of scientific psychology to improve aspects of everyday life.

Prerequisites: take PSYC-110.

PSYC-251 Child Psychology (3 cr.)

Fall, Spring and Summer

A study of the total psychological development of children emphasizing age groups spanning the pre-school and pre-pubescent child and methods for scientific measurement and understanding of child behavior.

Prerequisites: take PSYC-110.

PSYC-270 Social Cognition and Behavior (3 cr.)

Fall, Spring and Summer

Social factors affecting the behavior, thought processes, and attitudes of individuals. Includes attitude assessment and change, prejudice, interpersonal attraction, social influence, aggression, cognitive biases, and attributions.

Prerequisites: take PSYC-110.

PSYC-281 Environmental Psychology (3 cr.)

Fall and Spring

Psychological aspects of person/environment interaction. People impacts on environment, and environmental impacts on people. Aspects of recreational environment, population density and stress factors.

Prerequisites: take BIO-101 or BIO-150.

PSYC-320 Psychology: Its History and Systems (3 cr.)

Fall, Spring and Summer

History of psychology and influence of early competing schools of thought: structuralism, functionalism, behaviorism, Gestalt psychology, and psychodynamic psychology. Evolution to present as a diverse behavioral science with emphasis on neobehaviorism, humanistic psychology, and cognitive psychology.

Prerequisites: take PSYC-110; take 9 credits of PSYC.

PSYC-330 Psychology of Learning (3 cr.)

Fall and Spring

A course designed to acquaint the student with the principles of learning drawn from experimental and theoretical psychology. These principles are demonstrated as they apply to animal and human learning. Modern viewpoints toward theories of learning are emphasized.

PSYC-335 Motivation and Emotion (3 cr.)

Fall and Spring

An experimentally oriented introduction to the fundamental principles of motivation and emotion.

Prerequisites: take PSYC-110; take 9 credits of PSYC.

PSYC-340 Psychology of Individual and Group Differences (3 cr.)

ESC Fall and Spring

Nature and extent of differences if individuals and groups are studied. Intelligence, achievement, aptitudes, interests, attitudes, and general personality are the major differences included. Race, sex, nationality, social class and age in relation to individual differences are studied.

Prerequisites: take PSYC-110; take 2 courses from PSYC.

PSYC-351 Children's Social Reasoning (3 cr.)

ESC Fall and Spring

Focused, in-depth study of social reasoning from birth through late childhood. Empathy, friendship, altruism, multicultural perceptions, shyness, assertiveness, aggression, loneliness, morality, values, and global responsibility. Heredity/environment-based theories. Assessment tools and prevention and intervention programs.

Prerequisites: take PSYC-251, HDFS-124, HDFS-264, or PSYC-270.

PSYC-352 Adolescent Psychology (3 cr.)

Fall, Spring and Summer

The physical, emotional, social, moral, and intellectual development of secondary school youth.

Prerequisites: take PSYC-110.

PSYC-360 Personality Theories and Applications (3 cr.)

Fall, Spring and Summer

Definition of personality and analysis of historical and contemporary approaches to the study of personality. Examines personality theories, personality assessment, cultural and other group difference impacts on personality, applications of personality, and personality self-assessment.

Prerequisites: Take PSYC-110 and a minimum of 9 credits in PSYC.

PSYC-361 Abnormal Psychology (3 cr.)

Fall, Spring and Summer

A study of more serious mental disturbances. Emphasis on the growing importance of mental disorders and on their early detection and referral is studied.

PSYC-370 Interpersonal Effectiveness Training (2 cr.)

Fall, Spring and Summer

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression, understanding others' communication, assertive rights/responsibilities, dealing with difficult emotions, conflict management/resolution and mediation, collaborative problem solving and teamwork, and gender differences in communication style.

PSYC-371 Introduction To Health Psychology (3 cr.)

Fall and Spring

Principles of psychology applied to the promotion of health and wellness; prevention of disease, injury and premature death; psychological treatment of illness; improvement of health care; and formation of health policies. Instructor's consent required. Prerequisites: take 10 credits of PSYC.

PSYC-372 Psychology of Sex and Gender (3 cr.)

ESC Fall and Spring

Differences and similarities between females and males; psychosocial implications on personal and political status and the resulting influence on identity and self-concept.

PSYC-375 The Psychology of Marriage and the Family (2 cr.)

Fall and Spring

A study of the interpersonal relations involved in dating, mating and family collaboration with growing awareness of patterns for self-integration.

PSYC-377 Consumer Psychology (3 cr.)

Fall and Spring

Psychological principles and theories from the areas of motivation, perception, learning, attitude, information processing, personality, groups, organizational psychology, and environmental psychology are applied to the understanding of consumer behavior, consumer problems, and their solution.

Prerequisites: take PSYC-110.

PSYC-379 Public Relations (2 cr.)

Fall, Spring and Summer

Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications, and special publics.

PSYC-381 Industrial Psychology (2 cr.)

Fall and Spring

A survey of the application of psychological principles of man's vocational pursuit. Emphasis is on

individual differences and group behaviors which are involved in personnel selection, human factors engineering, industrial safety, motivation, personnel training, and consumer behavior. Course material is based primarily upon the latest behavioral science research in the field of industrial psychology.

Prerequisites: take PSYC-110.

PSYC-382 Human Resource Management (3 cr.)

ESC GLP Fall, Spring and Summer

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse workforce employed in domestic and international settings.

PSYC-390 Experimental Psychology (4 cr.)

Fall, Spring and Summer

Experimental research methods used in basic and applied areas of psychology. Methodological issues introduced in context of actual research problems for integrated treatment of content and methodology. Students will apply this knowledge by participating in laboratory activities and designing and conducting their own experiments.

Prerequisites: take STAT-130, PSYC-190.

PSYC-391 Applied Psychophysiological Methods (3 cr.)

Theory, methods, laboratory procedures, and applications of physiological responses to psychological stimuli.

Prerequisites: take BIO-132.

PSYC-401 Workshop: Special Topics in Psychology (1-3 cr.)

Current specialized topics studied in a small group setting utilizing experimental activities.

Instructor's consent required. **R**

PSYC-403 Management of Employee Reward Systems (3 cr.)

Fall

Review of issues in the reward and compensation of employees and of systematic methods for the determination of employee wages, incentives and benefits. Psychological theories of motivation, external equity, job analysis, identifying compensable factors used in job evaluation, comparable worth and performance appraisal, individual salary determination. Prerequisites: take PSYC-382.

PSYC-432 Perception (3 cr.)

Fall

This course serves as an introduction to human perception. The content of the course is structured around an information processing model, with the sensory and memory facilities considered as information systems. The student will analyze perceptual research, become familiar with classical and modern psychophysical techniques and conduct experimentation in human information processing.

PSYC-442 Cognitive Processes (3 cr.)

Fall and Spring

Cognitive theories of attention, memory, language, reasoning and problem solving with applications to fields of education, vocational rehabilitation, gerontology, forensic, clinical and counseling psychology.

Prerequisites: take PSYC-110.

PSYC-451 Children's Learning (3 cr.)

Fall and Spring

Psychological study of basic learning processes in infants and young children. How and why learning occurs and how the course of learning can be modified; discussed from theoretical, research, and practical orientations including simple behavioral responses, concepts and language. Prerequisites: take PSYC-110.

PSYC-455 Myers-Briggs Type Indicator (3 cr.)

Principles of Carl Jung's theory of psychological type are explored with the Myers-Briggs Type Indicator (MBTI). Applications in personal, interpersonal and organizational development; teaching/training and learning styles; collaborative problem solving; conflict; stress and time management.

Prerequisites: take 15 credits of PSYC.

PSYC-460 Personality and Mental Health (3 cr.)

Fall and Spring

An introduction to the areas of psychology which are concerned with the recognition of the positive principles of mental health and their application to human behavior. In addition, an examination is made of a variety of theories which are representative of the major views of leading thinkers on the subject of personality and personality development.

Prerequisites: take PSYC-110.

PSYC-473 Psychology of Stress (2 cr.)

Fall, Spring and Summer

Nature of stress and stress-related diseases, stress in daily life, techniques for managing stress, and plans for reducing stress in personal and professional life.

PSYC-475 Right Brain (2 cr.)

Spring and Summer

The two hemispheres of the human brain. Exploration and experience in right hemisphere modes of consciousness, through techniques such as meditation, hypnosis, drawing, guided imagery and dreaming.

PSYC-479 Advanced Public Relations (2 cr.)

Fall and Spring

Practice in planning and directing specific public relations programs, using the case problem approach. Prerequisites: take PSYC-379.

PSYC-480 Individual Research Project I (1 cr.)

Fall, Spring and Summer

Preliminaries of active research through the development of a research proposal which includes the problem statement, review of the literature and the design of the research project.

Prerequisites: take PSYC-210, PSYC-390. **R**

PSYC-481 Individual Research Project II (1 cr.)

Fall, Spring and Summer

Research in a personal area of interest within the behavioral sciences. Requirements include the completion of a research report which meets APA guidelines. Prerequisites: take PSYC-480. **R**

PSYC-484 Introduction To Behavior Modification (2 cr.)

Fall and Spring

An introduction to the applied analysis of behavior. Emphasis is placed on the fundamentals of behavior modification, models of behavior control, and applications in a variety of settings.

Prerequisites: take 3 PSYC courses.

PSYC-485 Recruitment and Selection of Human Resources (3 cr.)

Fall and Spring

In-depth examination of the processes involved in the design and implementation of procedures for selecting employees; the impact these procedures have on the organization; and recruitment, job analysis, testing methods, legal issues, selection strategies, career development.

Prerequisites: take PSYC-382.

PSYC-490 Psychological Measurement (3 cr.)

Fall and Spring

An introduction to the assumptions, models and applications of measurement techniques in behavioral science. Test analysis, item analysis, reliability, and validity are extensively covered. The course also introduces the student to prediction and measurement of attitudes and opinions.

PSYC-493 Field Practicum in Public Relations Specialization (1-3 cr.)

Fall, Spring and Summer

Opportunity to apply public relations principles in a practical setting. All coursework for the public relations specialization must be completed prior to the practicum that serves as a capstone for the specialization. Both setting and job description must be approved by the faculty supervisor. **R**

RC Risk Control

RC-271 Safety Principles and Practices (3 cr.)

Principles of accident prevention; school safety programs; identification of resources and content: motor vehicle, home, public, farm, industrial, school, recreational and civil defense.

RC-301 Seminar (1-2 cr.)

Structured analysis of regulatory and curricular issues that traffic safety educators should be conversant with. **R**

RC-371 Alcohol, Drugs and Accident Prevention (3 cr.)

Impact of alcohol and drug use on accident prevention programs; current efforts to rehabilitate alcohol and drug abusers.

RC-372 Behavior Approach To Accident Prevention (3 cr.)

Behavioral aspects of accident prevention from physiological, psychological, sociological and cultural perspectives; identifying, understanding and modifying attitudes and behavior.

RC-374 Driver Education Laboratory Methods and Techniques (3 cr.)

Role, aims and objectives of laboratory programs in driver and traffic safety education; multiple-student teaching techniques, simulation on-street behind-the-wheel and multiple-car driving range experiences provided.

RC-375 Driver and Traffic Safety (3 cr.)

Classroom phase of driver education: curriculum selection and use, instructional resources and materials, and driver education administration.

RC-381 Occupational Safety/Loss Control (2-3 cr.)

Fall, Spring and Summer

Overview of occupational accident prevention programs: techniques of measurement, cost of accidents, locating and identifying accident sources, and problems of selecting corrective action. Junior level or higher.

RC-383 Occupational Safety Regulations and Standards (2 cr.)

Fall and Summer

Application of a range of regulations and standards relating to occupational safety and health

RC-386 Fire Protection (2 cr.)

Spring

Behavior of fire: chemistry, protection, prevention and control.

RC-387 Human Factors Engineering/Ergonomics (3 cr.)

Fall

Physiological and psychological abilities in human/machine interface, working performance, reliability, comfort and safety; effective design of people and work environment as a cybernetic system.

RC-388 Construction Safety (2 cr.)

Fall and Spring

Analysis of hazards, control procedures and systems related to typical construction equipment, tools and materials safety problems.

RC-389 Fleet Risk Control Management (3 cr.)

Spring

Logistically-oriented management systems required to control risk in fleet operations including internal standards development/analysis, emergency response, accident analysis, loss

benchmarking, driver selection and training, vehicle operation, substance abuse testing, hours of service, vehicle maintenance/inspection, route planning, cargo/ personnel security, hazardous materials transportation, and regulatory controls. Prerequisites: take RC-381 or RC-388.

RC-390 Product/Service Liability (2 cr.)

Spring

An analysis of product liability losses, laws and controls.

RC-392 Construction Risk Management (3 cr.)

Analysis and application of fundamental process steps for construction job site risk management.

Prerequisites: take RC-388.

RC-395 Emergency Preparedness and Response (2 cr.)

Fall

Specific emergency response plans that meet federal, state and local regulations.

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Revised: August 2006

RD Design, Research and Development

RD-100 Introduction to Industrial Technology 1 cr.

Fall and Spring Semesters

Definition, history, and future of the industrial technology field and the present and emerging concentration areas. Business and industry links to options within industrial technology and the necessary preparation to meet graduates' future professional demands.

RD-205 Design for Industry 3 cr.

Fall and Spring Semesters

Industrial research and development experiences focusing on problems related to product development, innovation and problem solving, manual, semi-automatic and automatic production processes. Development and application of various systems for selection of materials and processing will be studied.

RD-320 Prototype Development and Model Making 3 cr.

Spring Semester

Introduction to model making and prototype development/construction. Competencies are developed in converting design, research and development and other creative ideas into three-dimensional objects using traditional and non-traditional machining and forming techniques. Three-dimensional design problems form the core of this course.

P: MFGT-110 or MFGT-150.

RD-420 Research and Development 2 cr.

Fall and Spring Semesters

Research and development procedures applied to specific industrial material and processing problems.

RD-421 Research and Development Laboratory 1 cr.

Fall and Spring Semesters

This lab is taken in conjunction with RD-420 to allow students in technical majors to fulfill the requirements of the major research and design project. Corequisite: RD-420.

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Reviewed: July 2007

REHAB Vocational Rehabilitation

REHAB-101 Introduction to Rehabilitation (3 cr.)

Fall and Spring

An introduction to serving people with disabilities. Philosophy, history, legislation, concepts and processes, and careers in rehabilitation services.

REHAB-102 Community Resources (3 cr.)

Fall and Spring

Role of community resources in rehabilitation.

REHAB-205 Rehabilitation Practicum (3-4 cr.)

Fall and Spring

Community based learning in application of rehabilitation concepts and principles. Includes weekly seminar for critique and skill development.

Prerequisites: take REHAB-101 minimum grade C; take REHAB-102 minimum grade C.

REHAB-230 Psychosocial Aspects of Disability (3 cr.)

ESC Fall and Spring

Subjective, objective, ethnic/cultural, and environmental factors related to the disability experience.

Prerequisites: take REHAB-101.

REHAB-300 Special Topics in Rehabilitation(1-2 cr.)

Special topics not available through regular courses. **R**

REHAB-300G Grantsmanship in the Helping Professions (1-2 cr.)

Summer

Explore grant writing in human service occupations and the necessity for such proposals as an element of change in society. Methods used to seek funding sources and evaluate requests for proposals.

REHAB-300N Community-Based Rehabilitation Services (1 cr.)

An examination of national priorities for community-based services designed to enhance competitive employment options for severely disabled persons.

REHAB-305 Sign Language I (3 cr.)

COMSK LANG Fall

Basic course in manual communication with persons who are deaf. Intensive practice in expressive and receptive communication.

REHAB-306 Sign Language II (3 cr.)

COMSK LANG Spring

Intermediate course in manual communication with persons who are deaf. American sign language, increasing sign vocabulary and communication speed.

Prerequisites: take REHAB-305.

REHAB-309 Introduction to Biofeedback (3 cr.)

Spring

Theory and applications of biofeedback in psychology, rehabilitation, medicine and education; in-depth review of the field; appropriate uses of biofeedback as a referral possibility; preparation for supervised clinical biofeedback experience.

REHAB-310 Vocational Evaluation (3 cr.)

Fall and Spring

Development of an individualized approach to conducting vocational evaluations with individuals with disabilities. Skill development in planning, selecting, and using assessment to

OLS/techniques, and communicating findings.
Prerequisites: take REHAB-101 and REHAB-102.

REHAB-315 Rehabilitaiton and Criminal Justice (3 cr.)

Fall and Summer

Criminal justice system: Process and individual rights. Crime data and criminal law, policing, adjudication. Process roles of corrections and professionals. Disability: Demographics, issues and responses.

REHAB-320 Rehabilitation and Chemical Dependency (3 cr.)

Spring

Chemical use and abuse with emphasis on the rehabilitation of persons who are chemically dependent and the historical and sociological implications of drug usage.

REHAB-321 Rehabilitation of Public Offenders (3 cr.)

Fall

Emphasis on programs designed to rehabilitate persons who are public offenders and sociological issues connected with the judicial system.

REHAB-325 Rehabilitation and Sensory Disability (3 cr.)

Introduction to persons with hearing and visual impairments or both. Methods and techniques used in sensory disability rehabilitation are discussed.

REHAB-327 Psychiatric Rehabilitation (3 cr.)

Fall

Goals and processes of psychiatric rehabilitation. Knowledge and application of skills for integrating diagnosis into planning and intervention with a focus on rehabilitation services for individuals with long-term mental illness in community-based settings.

Prerequisites: take PSYC-361 and REHAB-230.

REHAB-333 Adolescent Substance Use and Abuse (2 cr.)

Summer

Major concepts, current trends, and culturally sensitive approaches in the assessment, prevention and treatment of adolescent alcohol and drug addiction.

REHAB-350 Independent Living (2 cr.)

Fall

An overview of independent living programs in this country including evolution, goals, methods of service delivery, and management of the independent living program.

REHAB-355 Rehabilitation of the Older Disabled Worker (2 cr.)

Develop awareness and understanding of older disabled workers with a focus on implementing rehabilitation planning that enables continued participation in the work force or reinsertion into it following disability.

REHAB-360 Assistive Technology (2 cr.)

Fall and Spring

Provision of technology to enhance the lives of persons with disabilities. Delivery system, legislation, and issues related to funding are examined. Specific applications in communication, computers, mobility, and workstations and other technologies are reviewed.

REHAB-361 Microcomputer Applications in Rehabilitation (2 cr.)

Applications of microcomputer technology and adaptive devices in vocational evaluation, work adjustment, placement and administration.

REHAB-365 Laboratory in Rehabilitation Technology (2 cr.)

Spring

Experience utilizing technological aids/devices developed for persons with disabilities. Modify/adapt equipment to meet specific functional requirements. Construct switch/control mechanisms for equipment. Develop prototype solutions to vocational and independent living problems.

Prerequisites: take REHAB-360.

REHAB-401 Principles and Techniques of Caseload Management (2 cr.)

Fall and Spring

Principles and techniques of implementing case load management in service of clients of state vocational rehabilitation counseling agencies or rehabilitation facilities.

Prerequisites: take REHAB-230.

REHAB-402 Management of Non-Profit Organizations (3 cr.)

Spring

Principles and practices in the operation of non-profit organizations. Comparison of how non-profit and for-profit operations are affected by organizational structures and authority, budgeting practices, sources of income, personnel issues, strategic planning and program evaluation, and marketing. Application to community agencies.

REHAB-410 Job Placement Processes (3 cr.)

Fall and Spring

Placement theory and methods used to assist people with disabilities to obtain appropriate employment.

Prerequisites: take REHAB-230.

REHAB-420 Psychological Testing People With Exceptional Needs (2-3 cr.)

Fall, Spring and Summer

Use of common psychometric tests with specific emphasis on selection, evaluation, administration, scoring, and interpretation of standardized tests for individuals who are disabled, including those from various ethnic and cultural groups.

REHAB-452 Group Processes in Rehabilitation Settings (2 cr.)

Fall

Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group.

REHAB-459 Workforce Development, Disability, and Socioeconomics (3 cr.)

Macro/micro influences that keep people unemployed and underemployed, including community, services, providers, employers, and families. Interface among legislative initiatives, disability, and life/work. Policy, strategies, and skills that promote effective intervention and change. Intended for professionals in the field.

REHAB-460 Rehabilitation in the Private Sector (3 cr.)

Spring

Case coordination to support maximum medical recovery and/or vocational rehabilitation of an injured person involved in insurance funded cases. Differences between public and private rehabilitation processes. Interviewing, planning, assessing transferable skills, placing in suitable work, and communicating with other involved individuals. Business practices, professional roles, and ethical issues.

Prerequisites: take REHAB-310.

REHAB-461 Forensics For the Human Service Professional (2 cr.)

Spring

Terminology and practices associated with forensic for human service professionals. Strategies and materials related to preparation for testimony and expert witness testimony in a court of law and other legal settings.

REHAB-462 Disability Management in Business and Industry (3 cr.)

Fall

Orientation to workers with disabilities in business and industry. Focus on reducing disability related costs, and the elimination of attitudinal and environmental barriers as they pertain to hiring, productivity, and retention of workers with disabilities. Governmental requirements, linkage between business, community resources, and rehabilitation.

REHAB-470 Work Adjustment Services (2-3 cr.)

Fall and Summer

Principles and procedures of adjustment services. Emphasis upon the change and improvement of behavior. Supervised practical experience in interviewing, behavior observation, individual work adjustment planning, lesson plan development and report writing.

Prerequisites: take REHAB-310.

REHAB-480 Advanced Rehabilitation Practicum (2-6 cr.)

Spring

Advanced experience in service delivery to persons with disabilities in varied agency/service settings related to student's designated rehabilitation concentration. Instructor's consent required. **R**

REHAB-482 Sexuality and Disability (2 cr.)

Investigate sexuality as an integral part of the disability experience. Explore programs, techniques and personal biases in relation to sexuality of persons with disabilities.

REHAB-483 Vocational Counseling Issues (2 cr.)

Summer

Theoretical and applied approaches to vocational counseling and current research in vocational choice and career development as related to vocational counseling.

REHAB-488 Developing Collaborative Partnerships (3 cr.)

Fall

Development of professional relationships that are characterized by collaboration and respect for the consumer or student. Role of team members including human service professionals, consumer student, family members, school personnel, and community organization staff in collaborative decision making. Enhanced service delivery responsiveness through application of collaborative principles.

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SCOUN School Counseling

SCOUN-301 Introduction to Guidance (2 cr.)

Fall, Spring and Summer

Policies and practices of organized guidance programs in educational settings; historical, philosophical and cultural bases for guidance services; guidance techniques for teachers; cooperative efforts of teachers, parents and counselors.

SCOUN-400 Workshop: Counseling/Psychological Services (1-2 cr.)

Summer **R**

SCOUN-447 Behavior Problems of Children (2 cr.)

Spring and Summer

Psychological, social and environmental factors contributing to developing child's behavior; cause and treatment of behavioral disorders in children 3 through 12; methods of observing, diagnosing, documenting and interpreting; underlying behavioral dynamics of problem children.

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SOC Sociology

SOC-110 Introductory Sociology (3 cr.)

SBSCI/SOC, ESC, GLP

Fall, Spring and Summer

Social interaction in human groups; relationships between individual and group; social inequality; basic social institutions, social change and current social trends; the sociocultural diversity of groups; the infrastructure and interrelationships of social organizations; and alternative theoretical perspectives for explaining these social phenomenon.

SOC-225 Social Problems (3 cr.)

SBSCI/SOC, ESC, GLP

Sociological analysis of current social problems in the U.S. and the world.

SOC-250 Social Psychology (3 cr.)

Spring

Theory and application of social interaction; emphasis on communication.

SOC-275 Sociology of Gender Roles (3 cr.)

ESB

Fall and Spring

Sociological analysis of social roles played by the sexes.

SOC-315 Criminology (3 cr.)

Fall and Spring

Sociological analysis of structure and function of criminal law, variables of criminal behavior and operation of criminal justice system.

Prerequisites: take SOC-110.

SOC-325 Sociology of Leisure (3 cr.)

Fall and Spring

Institutional approach to effects of leisure on social structure; values reflected in leisure; problems with increase in leisure resources.

SOC-340 Sociology of Work (3 cr.)

ESC

Fall and Spring

Human behavior in various types of employment and occupations; trends in U.S. occupational structure.

SOC-350 Sociology of Hmong Culture (1 cr.)

ESA

Sociological overview of Hmong cultural values, history, immigration and resettlement experiences, family and clan functions, and spiritual beliefs and practices. \$

SOC-360 Sociology of Juvenile Delinquency (3 cr.)

Fall and Spring

Theories of delinquency, criminal behavior, and social control in relation to modern institutions in American culture.

Prerequisites: take SOC-110.

SOC-375 Sociology of Minority Groups (3 cr.)

ESA, GLP

Fall and Spring

Social/psychological aspects of interaction between majority and minority groups; trends among minorities in the United States.

SOC-400 Sociology of Altruism (3 cr.)

Fall

Sociological perspective of altruism explored in the context of volunteer public service, and biographies of exemplary public service participants. Acceptance Into Honors Program.

SOC-410 Sociology of Thailand's Minority Groups: Study Abroad Program (4 cr.)

Study abroad program to Thailand. In-depth experiential learning of Thai minority cultures, including religions, socio-political status, Buddhism, health, education, trafficking of women and children, limited citizenship status, and poverty. Field trips to villages, non-governmental

agencies, schools, and clinics.

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SOCWK Social Work

SOCWK-205 Introduction to Social Work 3 cr.

Fall and Spring Semesters

Social work as a profession; history and philosophy of social services; information for teachers, counselors and those interested in the field. Equivalent to 387-205. P: SOC-110.

SOCWK-420 Child and Family Agencies 3 cr.

Fall and Spring Semesters

Social and legal status of children in American society; various social services designed to optimize child's growth and development; nature and needs of families; family service agencies. Equivalent to 387-420. P: SOC-110.

SOCWK-430 Social Casework Methods 3 cr.

Dynamics of social casework: mobilizing individual capacities and community resources to promote adjustment between client and environment; social change. Equivalent to 387-430. P: SOC-110.

SOCWK-440 Social Work With Groups 3 cr.

History and contemporary theories of social work with groups and communities; topics include group leadership, group dynamics, treatment and task groups.

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SPAN Spanish

SPAN-103 Elementary Spanish I (4 cr.)

COMSK LANG ESB FGLP Fall and Spring

Understanding, speaking, reading and writing in Spanish. Culture of Spanish-speaking peoples, including those in the United States. Grammatical gender, present and past tense verbs, pronouns, adjectives. Supplementary work with audiotapes and computers. Not available for credit to students who took SPAN-121 or SPAN-122. Only one Spanish course counts toward Ethnic Studies.

SPAN-104 Elementary Spanish II (4 cr.)

COMSK LANG ESB FGLP Spring

Second level of understanding, speaking, reading and writing in Spanish. Topics in the culture of Spanish-speaking people, including those in the United States. Compound verb tenses, the subjunctive and commands. Supplementary work with audiotapes and computers. One year of high school Spanish or SPAN-103 required or SPAN-122.

SPAN-121 Practical Spanish I (2 cr.)

ESB FGLP Fall, Spring and Summer

Pronunciation, basic phrases for everyday situations, comprehension and production of short written and spoken sentences, basic grammar summary, introductory vocabulary, language in

Hispanic and Hispanic-American cultural context. Not available for credit to students who took SPAN-103. Only one Spanish course counts toward Ethnic Studies.

SPAN-122 Practical Spanish II (2 cr.)

COMSK LANG ESB FGLP Fall, Spring and Summer

Second quarter college Spanish. Vocabulary, conversational patterns, irregular present tense verbs, regular and some irregular preterite verbs; object pronouns. Spanish language in the context of Hispanic culture. Not available for credit to students who took SPAN-103. Only one Spanish course counts for Ethnic Studies. One semester of high school Spanish or SPAN-121 required.

SPAN-201 Intermediate Spanish I (4 cr.)

HUM FLC ESB FGLP Fall, Spring and Summer

Extensive development of vocabulary including common idioms, aural comprehension, correct pronunciation and recognition of verb tenses. Readings and class discussion based on historical background and contemporary Hispanic life, including Hispanic culture in the United States. Only one Spanish course counts for Ethnic Studies. Two years of high school Spanish or SPAN-104 required.

SPAN-202 Intermediate Spanish II (4 cr.)

COMSK LANG FGLP Fall, Spring and Summer

Complete grammar review of standard Spanish, applicable to both conversational situations and business or personal correspondence. Review of essential vocabulary and phrases. Accuracy and fluency in spontaneous conversation and free composition. SPAN-104 or three years of high school Spanish .

SPAN-227 Spanish Composition and Conversation I (2 cr.)

COMSK LANG ESB FGLP Fall

Fifth semester college Spanish. Advanced grammar review. Introduction to composition. Writing paragraphs and short essays. Advanced conversation. Emphasis on native-like pronunciation, vocabulary and structural fluency. Only one Spanish course counts as Ethnic Studies. Four years of high school Spanish or SPAN-202 required.

SPAN-229 Hispanic Literature in America (2 cr.)

HUM FLC ESB FGLP Fall and Spring

Sixth semester college Spanish. Themes and techniques of Hispanic literature. Vocabulary in Spanish for discussion of a variety of literary genres. Historical and cultural contexts. Emphasis on increasing oral and written fluency in Spanish. Four years of high school Spanish or SPAN-202 required. **R**

SPAN-304 Latin American Short Story (2 cr.)

HUM FLC FGLP Fall

Introduction to the 20th and 21st century Latin American short story. Vocabulary and readings in Spanish of prominent authors and distinct literary periods of this genre. Related historical and cultural contexts. Taught in Spanish. SPAN-202 or equivalent.

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SPCOM Speech Communication

SPCOM-100 Fundamentals of Speech (2 cr.)

COMSK Fall, Spring and Summer

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

SPCOM-101 Forensics (1-2 cr.)

Fall and Spring

Training in speech through instruction in and application of the principles used in intercollegiate forensics program: oral interpretation and original and limited- preparation events. **R**

SPCOM-102 Forensics (1-2 cr.)

Fall and Spring

Training in speech through instruction in an application of the principles used in intercollegiate forensics program: oral interpretation and original and limited- preparation events.

Prerequisites: take SPCOM-101. **R**

SPCOM-103 Forensics (1-2 cr.)

Fall and Spring

Training in speech through instruction in an application of the principles used in intercollegiate forensics program: oral interpretation and original and limited- preparation events.

Prerequisites: take SPCOM-102. **R**

SPCOM-104 Forensics (1-2 cr.)

Fall and Spring

Training in speech through instruction in and application of the principles used in intercollegiate forensics program; specific emphasis on forensics administration.

Prerequisites: take SPCOM-103. **R**

SPCOM-200 Persuasive Speaking (2 cr.)

COMSK Fall, Spring and Summer

Advanced techniques of speaking; develop skill in audience analysis, speech composition and delivery of various types of speeches; recognize techniques used daily toward individuals and groups.

Prerequisites: take SPCOM-100.

SPCOM-202 Oral Interpretation (2 cr.)

HUM CRPRF Spring

Individual and group activities to develop skill in the oral performance of literature; projects in analysis and delivery of literature. Consideration of individual problems.

SPCOM-206 Discussion (2 cr.)

COMSK Fall and Spring

Principles and techniques of discussion; leading and participating in symposium, panel, roundtable and other discussion forms.

SPCOM-208 Theory of Communication (3 cr.)

COMSK Fall and Spring

How people communicate with each other; interpersonal, social, technical and business communication, monographs of various communication theorists.

Prerequisites: take SPCOM-100.

SPCOM-210 Interpersonal Speech Communication (2 cr.)

COMSK Fall and Spring

Basic aspects of non-structured, informal speech communication; expression of feelings and intentions and processing of relationships.

SPCOM-236 Listening (2 cr.)

COMSK

Theoretical analysis and practical application of listening concepts. Emphasis on assessment of individual listening skills and methods of improving personal listening techniques used in occupational and personal relationships.

SPCOM-308 Speech Skills For Business and Industry (2 cr.)

Fall, Spring and Summer

Technical speaking; projects in application of speech skills and activities in business and industry.

SPCOM-310 Introduction To Speech Correction (2 cr.)

Spring

Nature and causes of and therapeutic methods for remediating speech and language disorders.

SPCOM-312 Intercultural Communication (2 cr.)

ESB, GLP Fall and Spring

Communication concepts and strategies in a multi-cultural society with emphasis on the major United States cultural groups: understanding communication norms in one's culture of origin and developing a functional appreciation of the diversity of communication standards among cultures. Prerequisites: take SPCOM-100.

SPCOM-414 Interviewing (1 cr.)

Fall and Spring

Principles and techniques for interviewee in employment interviews.

SPCOM-425 Informational Interviewing Skills for Professionals (1 cr.)

Theories and methodologies used in the collection and interpretation of data for research and professional development purposes.

Prerequisites: take SPCOM-100.

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SPED Special Education

SPED-100 Introduction To Special Education 1 cr.

Fall

Introduction to the special education profession. Survey of the history, philosophy, mission, legislation, issues, organization, and resources associated with the profession; and introduction to the professional standards and content guidelines.

SPED-300 Introduction To Individuals With Cognitive Disabilities 3 cr.

Fall

Introduction to etiology of mental retardation; psychological, educational, social and vocational aspects; adjustment techniques used in working with mentally retarded persons.

SPED-301 Learning Disabilities 3 cr.

Spring

Identification, remediation and evaluation of learning disabled; intervention techniques used with adolescents and adults.

SPED-305 Introduction to Early Childhood Special Education 2 cr.

Summer

Introduction to the history and purposes of EC-SE programming, legislation, population receiving services, family intervention, intervention models and issues.

Prerequisites: take SPED-430 and HDFS-124.

SPED-310 Methods, Materials and Curriculum for the Exceptional Child 3 cr.

Fall

Curricular and methodological adaptation for young children with exceptional educational needs in the areas of social-emotional development, manipulative and motor skills, self-help skills, communication, cognitive development, and creative expression. Admission to Early Childhood Special Education Certification track.

Prerequisites: take SPED-305.

SPED-315 Early Childhood Special Education Programming 3 cr.

Spring

Organization and implementation of Early Childhood Special Education programs, including service delivery, program models, consultation and collaboration, and intervention agents.

Prerequisites: take SPED-305 and SPED-310.

SPED-318 Introduction to Teaching and Assessment in Special Education 2 cr.

Fall, Spring and Summer

Provides one-on-one, supervised experience in teaching youth with exceptional education need (EEN). Provides the initial opportunity for the student to teach a young person with EEN in a supervised setting for 50 hours.

SPED-320 Early Childhood Exceptional Educational Needs Assessment 2 cr.

Summer

Assessment and diagnosis of the young child with a suspected disability. Norm referenced, criterion referenced, and play-based assessment in the following areas: cognitive, motor, speech/language social/emotional, and family. Admission to Early Childhood Special Education Certification track. Prerequisites: take SPED-315.

SPED-322 Curriculum and Instruction: Severe Disabilities 2 cr.

Spring

Curriculum and instruction strategies for teaching functional academics, personal/social, vocational, and community living skills to individuals with severe and profound disabilities. Benchmark I completed.

Prerequisites: take SPED-300 and SPED-430.

SPED-323 Mild Disabilities: Social Studies and Science 3 cr.

Fall and Spring

Curriculum and methods of teaching students with mild cognitive, learning, and emotional/behavioral disabilities in the content areas of social studies, science and in general education. Strategies that facilitate integration, improve maintenance and generalization of skills, promote transitions, increase self-awareness and self-management, and compensate for learning deficits. Benchmark I completed.

Prerequisites: take SPED-300, SPED-301, and SPED-430.

SPED-324 Curriculum and Instruction: Career and Transition Education 3 cr.

Fall

Curriculum and instruction for persons with disabilities in prevocational, career education, career preparation, and transition, stressing collaboration between education, community-based service providers, and families. Benchmark I completed.

Prerequisites: take SPED-300 and SPED-430.

SPED-326 Pre-Student Teaching: Cognitive Disabilities 2 cr.

Fall

Supervised experience in observing, planning instruction, and teaching children and youth with cognitive disabilities in a cross-categorical school environment. Repeatable three times for credit. Benchmark I completed.

Prerequisites: take SPED-300.

SPED-328 Assessment for Individual Education/ Transition Plans 3 cr.

ESC Fall, Spring and Summer

Diagnosing behavior and learning problems of students with exceptional education needs. Preparing individual educational and transitional plans based on comprehensive assessments. Benchmark I completed.

SPED-330 Introduction To Communication Disorders 3 cr.

Fall

Nature, causes of and methods used when working with individuals who have speech and language disorders.

SPED-338 Pre-Student Teaching Children/Youth With Disabilities 2 cr.

Fall, Spring and Summer

Supervised experience in observing, planning instruction, and teaching children and youth with disabilities in a cross-categorical school

environment.

SPED-400 Workshop: Topics in Special Education 1-3 cr.

Summer

Current specialized topics studied through experiential activities.

SPED-410 Adaptive Angler Education 1 cr.

Summer

Methods of teaching basic and adapted fishing skills to individuals with disabilities. Successful completion results in Wisconsin DNR Angler Education Instructor certification.

SPED-420 Schools, Families and Community Collaboration 3 cr.

Theory, general principles and procedures for fostering collaborative partnerships among families, professionals, students and other service providers. Focuses on families with children who have disabilities.

Benchmark I Completed.

SPED-430 Inclusion of Students With Exceptional Needs 3 cr.

Fall, Spring and Summer

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented.

SPED-440 Diagnosis and Remediation of Literacy And Math Disabilities 4 cr.

Curriculum, methods, assessment and remediation of teaching reading, math, and language to individuals with mild disabilities. Strategies that assess and evaluate, monitor progress, increase, maintain and generalize skills, facilitate integration, and compensate for learning deficits in the general and special education curricula. Benchmark I Completed.
Prerequisites: take EDUC-380 EDUC-381 EDUC-382.

SPED-447 Emotional and Behavioral Problems of Children and Adolescents 3 cr.

Spring and Summer

Assessment, identification and evaluation of emotional and behavioral disorders of learners middle childhood through adolescence, including methods of observing, diagnosing, documenting and interpreting. Characteristics of emotional and behavioral disabled learners, including potential concomitant physical, cognitive, or sensory disabilities and psychological, social and environmental factors contributing to childhood emotional and behavioral disorders.

SPED-462 Classroom Management Techniques 3 cr.

Spring

Techniques for motivating handicapped youth, individual and group discipline, behavior modification, educational organization, evaluation, and communication to enhance learning. Benchmark I completed.

SPED-480 Student Teaching With Handicapped Youth 4-8 cr.

Fall and Spring

Directed teaching and community experiences in selected off-campus schools with normal and handicapped adolescents. Satisfy Health, Speech, English.

Prerequisites: take SPED-462.

SPED-481 Student Teaching: Special Education 4-16 cr.

Fall and Spring

Directed special education teaching and community experience in selected off-campus schools. School of Education permission required.

Prerequisites: take SPED-318, SPED-326, and SPED-462.

SPED-482 Student Teaching Early Childhood -- Special Education 8 cr.

Directed teaching and community experiences in selected infant-toddler, preschool, or school based programs for children with disabilities. Admission to Early Childhood Special Education Certification track. Prerequisites: take SPED-320 and SPED-430.

SPED-488 Intern Teaching: Special Education 16 cr.

An alternative method of obtaining Special Education student teaching experience. Interns receive license to teach and salaried appointment in a cooperating school for one semester. School of Education permission required.

Prerequisites: take SPED-322, SPED-323, SPED-324, SPED-326 and SPED-462.

SPED-489 Intern Teaching Early Childhood: Special Education 8-16 cr.

Directed teaching and community experiences in selected infant, toddler, preschool, or primary school-based programs for children with disabilities.

R

Prerequisites: take SPED-320.

SPED-490 Behavioral Interventions in the Schools 2 cr.

Fall and Spring

Functional behavioral analysis and intervention planning. Focus on intensive and individualized behavior problems.

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SRVM Service Management

SRVM-111 Introduction To Global Service (3 cr.)

GLP

Principles of service management with emphasis on trends, career opportunities, and global economic impact of service sectors.

SRVM-210 Service Operations Management (3 cr.)

Examination of the environment in which services operate. The design of service delivery systems is addressed from the perspective of both customer participation and operations efficiency.

SRVM-260 Managing Service Learning (3 cr.)

Fall and Spring

Manage service-learning systems that respond to community needs. Address the perspectives of

not-for-profit and for-profit delivery systems.

SRVM-346 Seminar in Service Management (1 cr.)

Definition and analysis of high performance service management best practices.

SRVM-354 Service Marketing Management (3 cr.)

Marketing management concepts, issues and terminology unique to the service sector. Strategies used by service marketers will be analyzed and contrasted with other economic sectors.

Prerequisites: take HT-251 or BUMKG-330.

SRVM-398 Service Management Field Experience (1-2 cr.)

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area.

SRVM-410 Electronic Service Management (3 cr.)

Overview, identification, and evaluation of service management components of electronic commerce relationships within the market/ workplace.

SRVM-420 International Service Concepts (3 cr.)

GLP Fall and Spring

National and cultural constraints and expectations that impact planning, execution, and evaluation of service quality. Cultural, business, managerial and behavioral foundations supporting success in an international service context. Prerequisites: take SRVM-111.

SRVM-421 Customer Interaction Center Management (3 cr.)

Spring

Introduction to evaluation, design, maintenance, and management of online telephone technology to provide customer service solutions for industry in customer interaction centers.

SRVM-481 Special Problems in Service Management(1-3 cr.) **R**

SRVM-498 Service Management Field Experience (1-2 cr.)

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Must Have 90 Credits Completed.

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STAT Statistics

STAT-130 Elementary Statistics 2 cr.

ANRSN STAT Fall, Spring and Summer

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages.

Equivalent to 354-130.

STAT-320 Statistical Methods 3 cr.

ANRSN STAT Fall, Spring and Summer

Histograms, mean and standard deviation, combinatorics, probability; binomial, hypergeometric, normal, Chi-square, T and F distributions and their uses; statistical inference; contingency tables, linear models, analysis of variance with appropriate applications. Three years of high school math required, or Math-120 or higher. Equivalent to 354-530. P: 1 courses from subject MATH, from Level 2 except MATH-110 or MATH-118.

STAT-330 Probability and Statistics for Engineering and the Sciences 3 cr.

Fall and Spring Semesters

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (estimation and hypothesis testing); topics in reliability. Equivalent to 354-330. P: MATH-154 or MATH-157.

STAT-331 Probability and Mathematical Statistics I 3 cr.

Fall Semester

Sample spaces. Probability functions for discrete and continuous sample spaces. Conditional probability and independence. Random variables; probability density and cumulative distribution functions; joint, marginal, and conditional distributions. Expected values, moments, and moment-generating functions. Binomial, hypergeometric, Poisson, normal, and gamma distributions. Equivalent to 354-331. P: MATH-154 or MATH-157. Corequisite: Math-158.

STAT-332 Probability and Mathematical Statistics II 3 cr.

Spring Semester

Sampling distributions, order statistics, introduction to decision theory, estimation, hypothesis testing, nonparametric methods, regression and correlation, analysis of variance. Equivalent to 354-332. P: STAT-331.

STAT-337 Design of Experiments I 2 cr.

Fall Semester

Linear and curvilinear regression, single-factor designs, confidence ellipsoids for means, blocking, Latin and other squares, factorial designs. Equivalent to 354-531. P: STAT-332.

STAT-338 Design of Experiments II 2 cr.

Spring Semester

Fixed-effect, random-effect and mixed models; nested and nested-factorial designs, split-plot designs, confounding in blocks, analysis of covariance, response surfaces, sequential analysis. Equivalent to 354-532. P: STAT-337.

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TCS Telecommunication Systems

TCS-103 Information and Communication Technologies (3 cr.)

TECH GLP

Fall, Spring and Summer

Examine the impacts of information and communication technologies on individuals and the global society and how its utilization affects personal, educational and professional growth.

TCS-131 Networking Operating System Fundamentals (3 cr.)

Fall and Spring

Introduction to network operating systems as utilized in the information technology industry. Installation and configuration of basic desktop operating systems.

TCS-145 Introduction To Network Infrastructure (4 cr.)

Emphasis on LAN/WAN routing, switching, security and maintenance. This course will prepare the student for the Cisco Certified Network Association (CCNA) examination.

TCS-300 Workshop (1-3 cr.)

Fall, Spring and Summer

Special topics in graphic communications, providing hands on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

TCS-304 Communications and Information Systems (1-3 cr.)

Fall, Spring and Summer

Overview of the communications industry. Use of systems to create, process, transmit, receive and evaluate information.

Prerequisites: take TCS-103.

TCS-305 Office Automation Technology (3 cr.)

Fall, Spring and Summer

Automation information concepts and technology used in office including both communication, storage, and retrieval systems. Emphasis on cost effective selection and implementation problems.

TCS-306 Introduction To Telephony (2 cr.)

Fall, Spring and Summer

Principles of current technologies, systems, and trends in telephone communication systems design and applications.

TCS-308 Convergence Technologies (3 cr.)

Spring

Creation of single networks that support many different types of traffic: data, audio, video, and interactive multimedia. Planning physical design and installation of a telephone and converged system, requirements of a converged network, and what makes convergence. Prerequisites: take TCS-103 & TCS-145.

TCS-340 Cisco Networking Academy Program: Instructor Fast Track (2 cr.)

Summer

Fast-track option to prepare the instructor for teaching in the Cisco Networking Academic Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI). Instructor's consent required. Must be Cisco CCNA certified.

TCS-341 Cisco Networking Academy Program: Instructor I (4 cr.)

First in a four-course sequence preparing instructors for teaching in the Cisco Networking Academy Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI), and preparing for the Cisco Certified Network Associate (CCNA) examination. Instructor's consent required.

TCS-342 Cisco Networking Academy Program: Instructor II (3 cr.)

Second in a four-course sequence preparing instructors for teaching in the Cisco Networking Academy Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI), and preparing for the Cisco Certified Network Associate (CCNA) examination. Prerequisites: take TCS-341.

TCS-343 Cisco Networking Academy Program: Instructor III (2 cr.)

Third in a four-course sequence preparing instructors for teaching in the Cisco Networking Academy Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI), and preparing for the Cisco Certified Network Associate (CCNA) examination. Prerequisites: take TCS-342.

TCS-344 Cisco Networking Academy Program: Instructor IV (2 cr.)

Fourth in a four-course sequence preparing instructors for teaching in the Cisco Networking Academy Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI), and preparing for the Cisco Certified Network Associate (CCNA) examination. Prerequisites: take TCS-343.

TCS-361 Workstation and Server (3 cr.)

Installing, configuring, and administering Microsoft Windows utilizing the current commercial version of the product for both workstations and servers. Helps prepare students for two of the Microsoft Certified Systems Engineer (MCSE) certification examinations.

Prerequisites: take TCS-145.

TCS-362 Server Applications (3 cr.)

Summer

Installing, configuring, and administering server applications using multiple industry standard operating systems. Server applications may include World Wide Web, FTP, software updates, mail, file sharing, DNS, DHCP, and terminal services.

Prerequisites: take TCS-361.

TCS-363 Directory Services (3 cr.)

Summer

Provides knowledge and skills to plan, implement, and troubleshoot directory services. Design and implement a secure network. Focuses on a directory services environment, including forest and domain structure, domain name system, site topology and replication, organizational unit structure, and delegation of administrations.

Prerequisites: take TCS-361.

TCS-382 Network Systems Design (3 cr.)

Spring

Concepts from communication networks. LAN, MAN, WAN networks. Introduction to LAN switching, ATM and virtual LANS. Designing and integration of LAN switching virtual networking and ATM into today's networks. Telecommunication Systems majors only.

TCS-383 Introduction To Network Security (3 cr.)

Winter, Summer

Design, implementation and management of network security in multilayered computer networks. Identifying and evaluating network security threats; internet, intranet, and extranet security issues. Must be Cisco CCNA certified.

TCS-391 Wireless Systems (3 cr.)

Spring

Wireless networking combining Radio Frequency (RF) and Local Area Networking (LAN) technology fundamentals. Basic concepts and building blocks or the convergence between RF and networking technologies. Technologies and tasks vital to installing, managing, and supporting wireless networks.

Prerequisites: take TCS-145.

TCS-401 Information Technology Policy and Audit (3 cr.)

GLP

Fall and Spring

Information technology policy, regulatory and audit issues, international standards, and internal security strategies.

Prerequisites: take TCS-103 and BUACT-206

TCS-441 Scalable Internetworks (3 cr.)

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Students will learn how to build scalable routable networks. Students are required to pass the associated Cisco certification examination. Must be Cisco CCNA certified.

TCS-442 Remote Access Networks (3 cr.)

Fall and Spring

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Students will learn how to build remote access networks to interconnect central sites to branch offices and home offices. Students are required to pass the associated Cisco certification examination.

Prerequisites: take TCS-441.

TCS-443 Multi-Layer Switched Networks (3 cr.)

Fall and Spring

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Build multi-layer switched networks. Students are required to pass the associated Cisco certification examination.

Prerequisites: take TCS-441.

TCS-444 Internetwork Troubleshooting (3 cr.)

Fall and Spring

Specialization course for the Cisco CCNP professional certification. Students will learn to troubleshoot internetworks. Students are required to pass the associated Cisco certification examination.

Prerequisites: take TCS-441, TCS-442, TCS-443.

TCS-445 Internetwork Design (3 cr.)

Fall and Spring

Specialization course for the Cisco CCNP professional certification. Students will learn to design internetwork solutions. Students are required to pass the associated Cisco certification examination.

Prerequisites: take TCS-441, TCS-442, TCS-443.

TCS-481 Telecommunications Systems Administration (3 cr.)

Fall

Issues and concerns required to manage telecommunications networks and contemporary problems.

TCS-490 Information Technology Management Capstone (3 cr.)

Fall and Spring

Work with an outside organization in a team environment utilizing concepts of design, brainstorming, problem solving, team work, creativity, evaluation, and present findings in oral and written formats.

Prerequisites: take TCS-444.

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TECED Technology Education

TECED-160 Introduction to Technology Education 1 cr.

Fall and Spring Semesters

Survey of the history, philosophy, mission, curriculum, methods, organizations and resources associated with technology education. Equivalent to 190-160.

TECED-205 Teaching Methods Technology/Vocational Education 2 cr.

Fall, Spring and Summer

Study of teaching methods in use in youth and adult shop classes. Instruction planning; lesson presentation with video tape equipment; methods of organization and management; instruction aids; professional ethics. Equivalent to 190-205, 190-205. P: TECED-160.

TECED-260 Curriculum, Methods, and Assessment For Technology Education 3 cr.

Fall Semester

Development of rationales, goals, content outlines, outcomes, objectives, activities, and assessment items. Equivalent to 190-260. P: TECED-160, EDUC-312.

TECED-325 Technology for Elementary School Children 2 cr.

Fall, Spring and Summer

Development, philosophy, objectives and course organization for industrial arts for the elementary schools. Suitable laboratory work in woods, metals, plastics and drawing. Equivalent to 190-525.

TECED-330 Implementing Technology Education 3 cr.

Fall, Spring and Summer

Converts the theory of contemporary technology education programs into instructional materials, facilities, and strategy suited to the secondary and post-secondary school. Equivalent to 190-530.

TECED-333 Planning Technical/Vocational Laboratories 2 cr.

School shop facility planning: equipment selection, placement, care and management. Equivalent to 190-533. P: TECED-405.

TECED-340 Middle School Technology Education 2 cr.

Fall, Spring and Summer

Reviews trends and activities in the technology education movement. To update instructors to teach middle school offerings. Equivalent to 190-540.

TECED-360 Technology Education Pre-Clinical Experience 1 cr.

Fall and Spring Semesters

Observing, experiencing, evaluating, and analyzing teaching and learning in public school settings. Equivalent to 190-360. P: TECED-160.

TECED-375 Workshop 1-3 cr.

Current specialized topics in industrial education through experiential activities. Instructor's consent required. Equivalent to 190-575.

TECED-390 Lab/Class Management in Technology Education 2 cr.

Fall, Spring and Summer

An overview of principles of facility planning and equipment selection for a variety of curriculum needs. Laboratory and classroom management techniques will be presented with an emphasis on safety requirements and managing various delivery systems used in contemporary programs. Equivalent to 190-390. P: TECED-160.

TECED-398 Field Experience 1-2 cr.

Fall, Spring and Summer Equivalent to 190-398.

TECED-398E Field Experience 1 cr.

Fall, Spring and Summer Equivalent to 190-398E.

TECED-403 Activities in Technology/Vocational Education 2 cr.

A study and design of learning activities for industrial and vocational education. Learning activities will be developed on selected levels of the cognitive, psychomotor, and affective domains to carry out stated behavioral objectives. An evaluation of the appropriateness of learning activities as presented in contemporary curriculum projects. Equivalent to 190-606.

TECED-405 Curriculum Technology/Vocational Education 2 cr.

Fall, Spring and Summer

Study of curriculum terminology and methods of selecting and organizing content for industrial education courses. A course of study and individualized instruction will be developed by the student for use in teaching a class in industrial arts or vocational education. Equivalent to 190-405. P: TECED-160, TECED-205.

TECED-406 Evaluation in Technology/Vocational Education 2 cr.

Fall, Spring and Summer

For industrial arts and vocational/technical teachers in evaluating program and student performance: basis for student assessment, evaluation of manipulative activity and construction of teacher-made tests as applied to all students (including those with special needs). Student evaluation of instructor and instruction. Equivalent to 190-406. P: TECED-205.

TECED-407 Student Teaching in Technology Education 5 cr.

Directed teaching and community experiences in selected off-campus schools. Teaching Certificate Required. Equivalent to 190-407.

TECED-408 Student Teaching Technology/Vocational Education 8 cr.

Fall and Spring Semesters

Directed teaching and community experiences in selected off-campus schools. Satisfactory health, speech and English. Cumulative GPA of 2.25 or better. Equivalent to 190-408.

TECED-409 Student Teaching 16 cr.

Fall, Spring and Summer

Directed teaching and community experiences in selected off-campus schools. OTE permission required. Satisfactory health, speech and English. Equivalent to 190-409. P: TECED-160, TECED-205, TECED-405, TECED-406.

TECED-431 Field Trips to Industry 1-3 cr.

Opportunities are provided for industrial and vocational education majors as well as teachers to accumulate information about industries through local and distant on-site visits to industries. A

third credit may be earned by showing evidence of application of data collected in courses being taught. Equivalent to 190-631. **R\$**

TECED-437 Organization/Management of Technical Laboratories 2 cr.

Summer Session

Experience in administration, project development and teaching problems associated with industrial education. Equivalent to 190-637. P: TECED-205.

TECED-438 Course Construction 2 cr.

Spring Semester and Summer Session

Directed experience in curriculum development and course of study construction for industrial education teachers; development of behavioral objectives and of instructional materials to help reach these objectives; development of course of study, instructional package/unit of instruction. Equivalent to 190-638.

TECED-460 Advanced Curriculum, Methods and Assessment for Technology 3 cr.

Spring Semester

Development and implementation of lessons, demonstrations, lab activities, evaluations, and classroom management plans. Equivalent to 190-460. P: TECED-260.

TECED-488 Internship Teaching 2-8 cr.

Fall and Spring Semesters

An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester. Equivalent to 190-488.

TECED-489 Internship Teaching 16 cr.

Fall and Spring Semesters

An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester. Admission to student teaching. Equivalent to 190-489. **R**

TECED-498 Field Experience 1-2 cr.

Fall, Spring and Summer Equivalent to 190-498.

TECED-498E Field Experience 1 cr.

Fall, Spring and Summer

Equivalent to 190-498E.

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TECH Technology

TECH-230 Exploring Technology 2 cr.

TECH Fall, Spring and Summer

Aspects of technology: definitions, present characteristics, history, forecasting, transfer, assessment, impact and systems. Equivalent to 195-530, 195-230.

TECH-295 Honors Seminar in Technology 2 cr.

TECH Fall and Spring

Addresses a wide range of technological concepts along with examples of how technology impacts our lives as individuals, a society, and a global community. Delivered in seminar format. Acceptance Into Honors Program.

TECH-332 Futures of Technology 2 cr.

TECH Fall Semester

Concepts of future studies as applied to technology. Exploration of possible alternatives. Techniques and skills for the professional user and the citizen consumer. Equivalent to 195-532.

TECH-340 Future of Work 1-2 cr.

Future possibilities as to why people work, who will work, and in what conditions. Project probable work parameters from current trends. Relate past, present, and future to students' individual work situations. Equivalent to 195-540.

TECH-375 Workshop 1-3 cr.

Fall, Spring and Summer

Special topics providing hands-on or experiential learning activities.

Specific content and title to reflect the topic of the workshop. **R**

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THEA Theatre

THEA-131 Theater Practicum .5-1 cr.

HUM CRPRF Fall and Spring Semesters

Participation in acting, stagecraft, lights, sound, makeup, costumes, properties and business in university theater productions. **R**

THEA-232 Introduction to the Theater 3 cr.

HUM CRPRF Fall and Spring Semesters

Development of theater arts from ancient times to present; play styles, production methods and audience appreciation; representative plays.

THEA-334 Contemporary Theater 2 cr.

HUM CRPRF Spring Semester Analysis of selected plays; structure, dramatic content and production methods.

THEA-336 Stagecraft and Scene Design 2 cr.

HUM CRPRF Spring Semester

Technical problems in producing plays; set design; constructing, painting and handling scenery; stage lighting, makeup, costuming, sound and visual effects, organization of production staff.

P: THEA-232.

THEA-338 Play Production 2 cr.

HUM CRPRF Fall Semester

Directing and acting techniques in play production; selecting, rehearsing and producing scenes for class.

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TRANS Transportation/Energy

TRANS-202 Transportation Systems 2 cr.

TECH Fall and Spring Semesters

Effects of transportation on society. Comparisons of transportation modes on relative costs, speeds, reliability, efficiency, and more. Examination of vehicle structures, propulsion, suspension, guidance, control and support systems.

TRANS-203 Transportation Systems Lab 1 cr.

Fall and Spring Semesters

Applications and reinforcement of transportation modes. Special projects and field trips.

TRANS-204 Energy Technology 2 cr.

TECH Fall and Spring Semesters

The nature of energy, its discovery, conversion, and harnessing. Economic, environmental, political and social ramifications of energy-related choices.

TRANS-205 Energy Technology Lab 1 cr.

Fall and Spring Semesters

Mechanical, electrical, fluid and thermal power projects.

P: TRANS-204.

TRANS-395 Seminar 1-2 cr.

Fall, Spring and Summer

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. **R**

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TRDIS Transdisciplinary

TRDIS-100 Applied Student Leadership 2 cr.

Fall and Spring Semesters

Applied leadership techniques in interpersonal communications and organizational dynamics developed through classroom experience and practice. Equivalent to 500-100.

TRDIS-101 Seminar in Career Exploration 1 cr.

Fall and Spring Semesters

Identification and analysis of individual career interests, values, needs, skills, and goals. Investigation of resources for career planning and development, including educational programs, job market information and employment opportunities. Development of individual career plans. Equivalent to TRDIS-196, 500-196.

TRDIS-120 Strategies for Academic Success 2 cr.

Develop study skills strategies, note taking and test-taking techniques, time management, goal setting, and textbook reading comprehension. Application of principles leads to academic success at the university. Equivalent to EDUC-280, 421-280.

TRDIS-297 Wisconsin in Scotland Field Experience 3 cr.

Fall and Spring Semesters

International field experience as unpaid volunteer in a business, educational, social service, or other non-profit organization in Scotland. Must be enrolled in Wisconsin in Scotland study abroad program. Equivalent to 500-297.

TRDIS-477 International Study 1-16 cr.

Inter-institutional credit exchange for students accepted in university-approved study abroad or international exchange programs offered through the office of international programs at recognized/accredited institutions in other countries. The course may be repeated. Equivalent to 500-477. **R**

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TRHRD Training and Human Resource Development

TRHRD-360 Training Systems in Business and Industry 3 cr.

Summer Session

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non-education majors. Equivalent to 198-560.

TRHRD-370 Training Methods in Business and Industry 2 cr.

Fall, Spring and Summer

Identification of training situations where the development and delivery of training is needed. Emphasis is on methods to deliver a training session. Students will be required to make training sessions presentations. Equivalent to 198-570.

TRHRD-375 Workshop 1-3 cr.

Fall, Spring and Summer

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Equivalent to 198-575. **R**

TRHRD-389 Training Internship 2-8 cr.

Fall and Spring Semesters

Opportunities for students to learn and practice training management and instructional techniques through activities and experiences in a training department. Objectives commensurate with student's background and field of training. Activities include designing and implementing training programs in student's major or minor field of study in either industry, business, military or government training programs. Equivalent to 198-589. P: TRHRD-360. **R**

TRHRD-400 Workshop 1-3 cr.

Fall, Spring and Summer

Special topics in training and human resource development providing hands-on or experiential learning activities. Specific content and title to reflect topic of the workshop. Equivalent to 198-600. **R**

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WS Women's Studies

WS-210 Introduction to Women's Studies 2 cr.

INTER ESB Fall and Spring Semesters

An examination of the experience of women in American society, their past and present

contributions and roles, and perspectives on the future. Equivalent to 300-510, 300-210.

WS-310 Women's Studies Practicum 1-3 cr.

Application of women's and gender studies principles to the development of leadership skills and service priorities in an organizational environment. P: WS-210.

WS-311 Topics in Women's Studies 1-3 cr.

Exploring, from interdisciplinary perspective, new information and ideas in a selected area of significance to women's studies. Equivalent to 300-511. P: WS-210. **R**